ESSAYS ON THE ENFORCEMENT OF THE EMPLOYMENT PROTECTION LEGISLATION

A Dissertation

Presented to the Faculty of the Graduate School

of Cornell University

In Partial Fulfillment of the Requirements for the Degree of

Doctor of Philosophy

by

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May 2009

ESSAYS ON THE ENFORCEMENT OF THE EMPLOYMENT PROTECTION LEGISLATION

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Cornell University 2009

Economists have traditionally studied the relationships between labor markets and labor legislations paying little attention to the degree and the characteristics of the enforcement of such regulations. This dissertation reports evidence that the enforcement of labor protection legislation impacts job flows and employment rates and that inefficiencies in the resolution of labor disputes being present policy reforms can attenuate them. The first chapter examines the impact of labor market regulations on labor market outcomes through the use of enforcement indicators. Using an original and exhaustive data set of the individual labor disputes that were brought to the labor courts spread over the French territory, the case disposition is found to depend on local economic conditions. An instrumental approach using the institutional setting and the legal environment of the labor courts allows us discovering that the outcomes of the cases, the filing rate and the use of judicial expertise cause fluctuations in labor flows and employment rates. The second chapter explores the existence of a prisoner's dilemma when workers and firms are involved in labor disputes and face the choice of hiring a lawyer to be represented at trial. Using a representative data set of labour disputes in the UK and a large population of French unfair dismissal cases, we find that a lawyer substantially increases the firm's probability of winning at trial but has little effect on the worker's victory probability. The gain in taking a lawyer for a worker is substantial when the firm is represented. Hiring a lawyer for the firm is

beneficial whatever the legal representation of the worker is. This often results in a prisoner's dilemma. The choice of the legal representation of the opposite party, risk-aversion and pre-trial bargaining effects, quality of the case and non financial costs play a role in explaining deviation from the equilibrium. Finally, the last chapter uses British data on individual labor disputes to complement the small empirical literature on the impact of the allocation of legal costs on judicial behaviours. A shift from the American rule of allocation of legal costs (each party bears its own costs) to the English one (the losing party pays the legal cost of the winning side) is associated with an increase in the settlement rate of labour disputes in the UK

BIOGRAPHICAL SKETCH

Henri Fraisse completed his education in France, obtaining a Master of Science from the National School of Statistics and Economic Administration (ENSAE) in 1997 majoring in actuarial science. His thesis was entitled “Option pricing with stochastic volatility: the Avellaneda, Levy and Paras approach”. After one year of mandatory military service at the French Procurement Agency and one year working as an actuary in the private sector he passed the competitive examination to enter the Banque de France as “Adjoint de Direction”. After having worked two years in the dealing room as a bond portfolio manager, he worked from 2001 to 2004 as an economist in charge of forecasting the French economy and obtained in 2004 a Master in economics from the Sorbonne. His thesis was entitled “a new analysis of the French saving ratio” and was supervised by Professor Antoine d’Autume. In 2004, Dr. Fraisse started the PhD program at Cornell University on secondment from the Banque de France. Whilst there, he was employed as a teaching assistant for Professor Ronald Ehrenberg (2005) and as a research assistant for Professor Jed DeVaro (2006-2007). He came back to France in 2007 where he is currently working as a researcher, deputy head of the microeconomic studies unit.

For Corinne

ACKNOWLEDGMENTS

The author would like to acknowledge his special committee members, Larry Kahn (chair), John Abowd and Jed DeVaro, for their invaluable assistance and encouragement during the preparation of this dissertation. He has also benefited from the advice and assistance of Corinne Prost, Francis Kramarz, Hervé Le Bihan, Denis Fougère, Dominique Andolfatto and participants at 2008 European Association of Economists conference, 2008 European Association of Labour Economists, 2008 IZA summer school and 2008 EDHEC-GAIN-ADRES conference. He would like to thank the Banque de France for its financial support and particularly Florence Mesplier and Martine Hory at the Banque de France for their day to day assistance when he was on secondment at Cornell. Lastly, he would also like to thank his family for their perseverance and support during the four long years this dissertation took to produce.

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1. Introduction

Economists have extensively studied the relationships between labor markets and labor legislations but have paid little attention to the degree and the characteristics of enforcement of such regulations. Labor laws are subject to court interpretation and could vary over time. As pointed out by *OECD 2004 Employment Outlook*, even if an employer can be sanctioned in case of non-respect of employment protection legislation (EPL hereafter), "these provisions are subject to court interpretation and this may constitute a major (but often hidden) source of variation in EPL strictness both across countries and over time". Since the seminal paper of Lazear (1990), the relationship between labor markets and labor regulations has been mainly studied through cross-country analysis where the labor flows or employment rates are tentatively explained by country specific qualitative measures of regulation ranked by their level of strictness. In a provocative NBER working paper, Freeman (2004) states that such cross-country analyses are hardly convincing since "with only 30 or so advanced countries, highly correlated outcomes, and infrequent changes in institutions, the number of configurations can easily exceed the number of independent data points". Another point of criticism to these cross-country analyses is that EPL indices typically used in these analyses are deemed exogenous and imperfectly capture how the behaviors of unions, employer federations, or governing regulators change over time.

Taking partly into account these critiques, a recent strand of literature has assessed the impact of EPL within countries. It is typically done by measuring the impact of a change in legislation targeted to a specific category within a whole country or -in the case of the US- the impact of the different timing in the introduction of a new EPL in different states. Wrongful-discharge protections were adopted by US state courts during the last three decades. Autor, Donohue and Schwab (2004) take advantage of

the between-state variation in the timing of the introduction of these labor laws and estimate their impact using difference-in-difference estimators. Boeri and Jimeno (2003), using the 1990s tightening of the Italian regulation for firms with less than 15 employees, find that the threshold does matter in conditioning layoff and hiring probabilities but find no significant impact on employment growth. Bauer et alii (2007) find no effect of the change in the German EPL exemption for small firms on worker turnover.

Unfortunately, this last strand of research suffers from several downsides as well. First, these studies do not provide information concerning the degree of **enforcement** of labor regulations. To which extent these regulations were used by workers to defend their own interest and are they actually binding for the employers? For instance, in the case of the US, even if judicial breaks to the employment-at-will doctrine have been judged by some state courts, we have little evidence on the extent to which they are used or even known by the workers and to which they act as a credible threat to the employment-at-will policy. The state of California recognized the application of the covenant of good faith and fair dealing to employment relationships in 1980. In March and April 1986 about 100 cases were filed in Los Angeles which would lead to an approximate number of 1,000 for the whole year in the entire state[1] (that is about 80 cases for one million of workers). [2] In comparison, for France with a very population and GDP similar to those of California, the number of cases in any given year is approximately 200,000. Of course, one could argue that the law can act on the employer in a pre-emptive way but, to capture any effect in the data, this impact should be very strong (or conversely the impact on employment of labor courts should be extreme in France). Second, problems of endogenity remain:

[1] In 1986, civil case filings in Los Angeles represented about 60% of all civil activity in the state of California.
[2] These figures are taken from Dertouzos (1986).

court interpretation with the ensuing impact might not be exogenous as market conditions could impact the leniency of the courts, the introduction of new laws, or the workers' tendency for litigation.

In the first chapter of this thesis, our contribution to the literature on EPL impacts on labor market outcomes is threefold. First, we consider measures of EPL varying across space and time based on the enforcement of the regulation. In France, workers can contest the conditions of a firing by filing a case to one of the 264 local labor courts. We use information collected by the French Ministry of Justice on all cases that were filed over the 1990-2004 period (2 millions of cases) to compute at the local level for each year numerous EPL indicators characterizing the enforcement of the labor laws: fraction of cases leading to a conciliation between parties, a trial, a worker's victory, dismissed by the court or the worker, fraction of cases where workers and firms were legally represented. We match these local indicators with local measures of job flows and employment rates. Second, as we work at the level of France, a country in which many institutions are centralized and do not vary across the French territory (minimum wage, unemployment benefits, wage bargaining…) we control for most of the interactions of labor market institutions. Third, thanks to the French institutional setting and local measure of legal environment, we adopt an instrumental approach to correct for the endogeneity from which the estimations of the relationship between economic condition and enforcement of labor laws might suffer.

The first chapter of this dissertation supports the fact that the enforcement of labor legislation impacts job flows and employment rates. Hence, natural questions to ask whether the related litigation processes are a source of inefficiencies. In this respect, the second chapter explores the presence of a prisoner dilemma in the choice of legal representation when a individual labor dispute arises. There is no doubt that a lawyer is necessary in many cases: in criminal cases a lawyer is usually appointed by the

court when the defendant cannot obtain or pay for an attorney. However, whether or not to pay for legal representation is a matter of cost-benefit analysis and strategic choice for a wide range of legal conflicts. Each party might trade off legal fees against lower expected gains at trial, assuming that legal assistance does not hurt. The return to hiring a lawyer might also be influenced by whether the opposite party hires one. If one party hires a lawyer in an effort to increase the chance of success, and the opposite party does the same, the likelihood of victory might ultimately be the same as it would be if neither party were represented. Using this logic, Ashenfelter and Bloom (1990) were the first to formally observe that strategic behaviors in choosing legal representation might result in a prisoner's dilemma game. A dominant strategy for both parties is to choose a lawyer to be represented, but in doing so they end up in being worse off that if they were not represented. Taking the example of a union and a firm bargaining on a wage increase, both parties might neutralize the actions of their opponent if they both use a lawyer or if they both do not use a lawyer. On the other hand, if only the worker (firm) uses a lawyer, she manages to achieve an additional wage increase (decrease). Assuming that this additional increase (decrease) exceeds the lawyer's fees, the following "prisoner's dilmma" payoff matrix arises:

Only a few empirical studies look at the gain from hiring a lawyer, and even fewer consider it as a strategic choice in a two-player game. The data sets used by these authors suffer from some limitations. They take into account only cases solved through arbitration and not through the court system. They are specific and not representative of the population of cases. More importantly, these papers empirically find the necessary conditions for having a prisoner dilemma in term of probability of victory[3]: it is the same when both parties are represented or none of them are

[3]In case of arbitration, the winning side is the one whose proposal is the closest to the proposal of the arbitrator.

represented, and it is higher when one party is represented and the other is not. Nevertheless, as these data sets do not provide any information on legal fees, they do not allow for the computation of the pay-off matrix of the game and the question of whether the game represents a prisoner's dilemma remains.

The second chapter complements these studies by using two sets of data of unfair dismissals brought to courts in France and the UK. Our French data set is comprised of administrative records of almost 2,000,000 cases that have been brought to labour court from 1990 to 2004. Unfortunately, awards and legal fees are not available, but they allow us to compute the matrix of marginal probabilities of victory for a population of cases. Our British data set is comprised of two successive samples of UK Employment Tribunal cases drawn in 1998 and 2003, containing an unusual rich information on the plaintiff and the defendant, including the settlement amount, the award in case of trial, the legal representation and its cost, and in case of a tribunal hearing, the characteristic of the representation of the opposite party. Using these data, the computation of pay-off matrix of the game of legal representation shows some evidence of a presence of a prisoner dilemma.

Policy reforms have been taken to reduce inefficiencies related to the litigation process surrounding individual labor disputes. About 200,000 (100,000) unfair dismissals cases are filed every year in France (Great-Britain). This accounts for 10% of the people claiming unemployment-related benefits in the UK, and it represents about 30% of the yearly number of workers enrolling at the National Placement Agency in France after having been fired. In addition to the award or the settlement amount, legal representation might represent a substantial firing cost for the firm[4]. As noted by Blanchard and Tirole (2004), judges' interventions are necessary to distinguish a redundancy from a misconduct to denounce discrimination or to check if

[4] For the UK, legal cost represents about 4% of the yearly net pay of the worker.

all the legal steps surrounding a redundancy have been followed but labour legislations often make the judge act as a substitute for the judgement of the company's management, which is clearly economically inefficient. So is a litigation process that induces legal costs of representation that would have been avoided if the parties would have managed to reach an agreement "in the shadow of the law". Hence, any reform pushing toward more conciliation and fewer judicial battles in the firing decision is a matter of importance for the policy maker and the role of legal representation must be under scrutiny. The tools available to the policy maker to reach that goal are numerous: caps on awards, allocations of legal costs to the losing party, mandatory and preliminary use of an arbitrator to make a conciliation step and so on.

The third chapter exploits a reform that shifts the allocation of legal cost from the American rule (each party bears its own costs) to the English one (the losing party pays the legal cost of the winning side). This reform has been implemented in the UK in 2001 for individual labor disputes. Using two successive samples of UK Employment Tribunal cases drawn in 1998 and 2003 collecting a very rich set of information on the plaintiff and the defendant, we assess the impact of this new regulation.

2. The effects of the enforcement of the employment protection legislation on labor market outcomes

In a provocative NBER working paper on labor market flexibility, Richard Freeman (2004) states that -- after more than one decade spent by labor economists and international organizations to convince themselves through inconclusive aggregate data analyses and cross-country comparisons that a negative relationship between employment protection legislation (EPL hereafter) and labor market performance should prevail -- it was time to switch to micro-analysis of workers and firms and experimental methods. In a seminal paper, Lazear (1990), who uses the unemployed benefit and severance payment given to a blue collar with 10 years of service as a proxy for labor market flexibility, acknowledges that high overall labor market flexibility can prevail without being captured by any of those two variables. Hence, one might conclude with Freeman that cross-country analyses are hardly convincing since "with only 30 or so advanced countries, highly correlated outcomes, and infrequent changes in institutions, the number of configurations can easily exceed the number of independent data points". Another point of criticism to these cross-country analyses is that EPL indices typically used in these analyses are deemed exogenous and imperfectly capture how the behaviors of unions, employer federations, or governing regulators change over time.

Taking partly into account these critiques, a recent strand of literature has assessed the impact of EPL within countries. It is typically done by measuring the impact of a change in legislation targeted to a specific category within a whole country or -in the case of the US- the impact of the different timing in the introduction of a new EPL in different states. Wrongful-discharge protections were adopted by US state courts during the last three decades. Autor, Donohue and Schwab (2004) take advantage of

the between-state variation in the timing of the introduction of these labor laws and estimate their impact using difference-in-difference estimators. The "implied-contract" exception law, meaning that the employer implicitly promised not to terminate a worker without good cause, is found to have reduced state employment rate by 0.8 to 1.6%. Boeri and Jimeno (2003), using the 1990s tightening of the Italian regulation for firms with less than 15 employees, find that the threshold does matter in conditioning layoff and hiring probabilities but find no significant impact on employment growth. Bauer et alii (2007) find no effect of the change in the German EPL exemption for small firms on worker turnover.

Unfortunately, this last strand of research suffers from several downsides as well. First, these studies do not provide information concerning the degree of **enforcement** of labor regulations. To which extent these regulations were used by workers to defend their own interest and are they actually binding for the employers? For instance, in the case of the US, even if judicial breaks to the employment-at-will doctrine have been judged by some state courts, we have little evidence on the extent to which they are used or even known by the workers and to which they act as a credible threat to the employment-at-will policy. The state of California recognized the application of the covenant of good faith and fair dealing to employment relationships in 1980. In March and April 1986 about 100 cases were filed in Los Angeles which would lead to an approximate number of 1,000 for the whole year in the entire state[5] (that is about 80 cases for one million of workers). [6] In comparison, for France with a very population and GDP similar to those of California, the number of cases in any given year is approximately 200,000. Of course, one could argue that the law can act on the employer in a pre-emptive way but, to capture any effect in the

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data, this impact should be very strong (or conversely the impact on employment of labor courts should be extreme in France). Second, labor laws are subject to court interpretation and could vary over time. As pointed out by *OECD 2004 Employment Outlook*, even if an employer can be sanctioned in case of non-respect of EPL, "these provisions are subject to court interpretation and this may constitute a major (but often hidden) source of variation in EPL strictness both across countries and over time". In addition, methodologically, the timing of introduction of a new EPL can substantially alter the results. Indeed, Miles (2000) - using a different classification of cases in identifying the adoption dates - finds no significant effects. Third, problems of endogeneity remain: court interpretation with the ensuing impact might not be exogenous as market conditions could impact the leniency of the courts, the introduction of new laws, or the workers' tendency for litigation. Ichino et alii (2003), using micro data on labor court cases, focus on this institutional endogeneity of EPL enforcement. They show that in the case of an Italian bank of approximately 20,000 employees among which 409 workers were fired and 86 of them went to trial over more than 20 years, a higher unemployment rate increases the worker's probability of winning. In contrast, Marinescu (2006) - using data from a 1992 survey of Employment Tribunal Applications in Great Britain - finds that a higher unemployment rate leads to more severe decisions against the worker, in particular if the worker already found another job.

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As in all of the empirical papers we are aware of, our paper focuses on the impact of labor regulations on labor market characteristics and let aside the welfare gains from job stability which must be taken into account for policy recommendations[7]. In contrast with the existing empirical literature, our EPL indicators capture some dimensions of the quality of labor relations which according to Blanchard and Philippon (2004) or Algan and Cahuc (2007) are related to the evolution of labor market conditions.

The next section describes the French labor court institutional setting. After presenting a simple theoretical model relating the enforcement of labor laws to firing costs we describe our data sets and provides some descriptive statistics. Finally we explain our empirical methodology to capture EPL causal effects and presents our regression results on labor flows and employment rates.

[7] See Bertola (2003) for a theoretical model considering risk-averse workers and potential positive effect of EPL on welfare.

1. Labor courts in France: the institutional setting

1.1. French firing laws

Three types of events may trigger the firm's decision to fire a worker: a grave misconduct, a lay-off due to a slowdown in the business activity, or an insufficient level of competence. Under the current French law, the separation should be declared as a redundancy (or economic dismissal). However, in France as in many European countries an economic dismissal may entail a more complicated and time consuming process as well as the payment of large severance fees. On the contrary, a dismissal for misconduct is a faster process - if not challenged by the worker or if confirmed by the labor court. Thus the dismissal for "just" cause implies a lower firing cost than a redundancy. When fired, a French worker might sue the firm. Since a bill passed in 1973, every individual dismissal must be justified by a "real and serious cause" and the firm has the burden of proof. Without delving deep into 30 years of jurisprudence that have made this concept simultaneously blurred and precise, "real" means that the wrongdoing justifying the dismissal must be objectively defined, accurate, and in line with the mandatory firing notification letter. For example, being ten minutes late does not mean being seventy minutes late ; a lack of performance or a lack of trust is not considered as "real" if it is not objectively measured. The cause is considered as "serious" only if it is related to the professional activity of the worker and if it makes the labor relation impossible to continue. There are various degrees of "seriousness". Some lead to "grave misconduct" (for example brawl or thievery) which allows the employer to totally deprive the worker of severance payment.

In addition to the cause of the dismissals, the employee can sue the employer if he did not follow the mandatory legal steps of the firing process (for example the

employer must notify one week in advance that the employer intends to meet the worker in order to discuss his firing).

As pointed out by Galdon-Sanchez and Guel (2003), EPL legislation in European countries gave rise to a double moral hazard problem: a worker fired for misconduct has an incentive to sue for unfair dismissal and a firm has an incentive to label "misconduct" a separation which, in reality, is a redundancy. Thus, even if this phenomenon is obviously hard to detect in the data, the proportion of dismissals for economic reasons decreased from 61% in 1993 to 24% in 2004.

1.2. French labor courts

The French labor justice is mainly dispensed by the "Prud'hommes" which is the relevant jurisdiction to every labor dispute arising at the individual level in France. There are several labor courts in each Prud'hommes. As the legislators wanted to take into account industry characteristics of the cases brought to court, each Prud'hommes is divided into 4 sections according to the main activity of the firm: Agriculture, Retail Trade, Manufacturing, and Other Activities (mainly Services). A fifth section is dedicated to deal with cases involving "managers" irrespective of the activity of the firm.

The judges in the Prud'hommes are not professional judges and can be seen as performing a public duty. Each labor court comprises judges representing employers and judges representing employees in equal number. These judges are elected every five years within lists established by unions and federations. All employees are entitled to vote. They select judges in the union lists. Similarly, employers vote and select judges within the federation lists. All French establishments are allocated to one Prud'hommes. On the employee side, the electoral body includes all private sector workers with a labor contract. They are enrolled on the electoral list based on a

mandatory administrative reporting from their employer. Unemployed can also vote but have to enroll on the list by themselves. On the employer side, in addition to employers and business owners, employees entitled to take firing or hiring decisions can also vote for employer representatives.

Prud'hommes are supposedly not very formal and should be seen as conciliation boards. Prud'hommes were designed to foster agreements rather than trials. Therefore a first and mandatory step in each trial is a conciliation audience where plaintiffs and defenders explain their grievance and judges try to push for an agreement. If they do not, the case is judged. If an equal number of judges is pro worker and against her, there is a tie ("solution de départage"). In that case, a single professional judge decides the outcome of the trial.

In the 90's, 264 Prud'hommes are spread all over metropolitan France, a labor court being at most within a radius of 30 miles from any establishment. Even though a majority of plaintiffs are represented by a lawyer, going to labor court is not necessarily expensive. For instance, local administration provides a list of benevolent specialists (former labor inspectors, for example) who are willing to assist workers. Furthermore, low-income workers are eligible to financial help.

The plaintiff or the defender can appeal the decision of the labor court if the stake is larger than a given threshold (about 5,000 euros in 2006). It is worth noting that 60% of the decisions were appealed in 2004. Among them, 55% of these appeals did not overruled the Prud'hommes' decision, 30% confirmed it "partially"[8].

In case of an emergency, a summary judgment can be made. However, these judgments are only temporary and might be overruled afterwards. In this paper, we do not consider these summary judgments.

[8] Munoz-Perrez and Serverin (2006).

For any given case filed in labor courts, the range of outcome is wide. A case can lead to a full tribunal hearing and be lost or won. It can be classified as null and void if the plaintiff has not shown due diligence in the conduct of her case. The case can also be crossed out. This crossing out is less severe than a "null and void" classification. The worker can reinstate her case at the point it has been crossed out and does not have to restart the whole process. This crossing out can be decided by judges but it can also be the outcome of the plaintiff's initiative.[9] A case can either be conciliated during the conciliation step or outside the tribunal with a formal agreement sent to the court.

The motives for suing are multiple. The nullification of a dismissal is asked in the majority of cases (58%)[10]. 21% of plaintiffs ask for some compensation that was not paid by their former employer whereas 9% of plaintiffs do not agree with the level of their severance payment. For most of this paper, we do not distinguish between these different motives.

1.3. Recent changes

The legal environment did not change substantially during our sample period (1990-2004).[11] In a relative recent past of an institution officially founded in 1806[12], a 1979 bill radically changed the institutional settings of the Prud'hommes. First, it extended the number of Prud'hommes across France in order to guarantee an equal access among workers. Second, it ended the majority rule for electing representatives which resulted in a more diverse composition of each Prud'hommes. Thirdly, it made

[9] In 2004, only 27% of crossed out cases were reinstated.
[10] In a very vast majority of the cases won by the worker, the worker is not reinstated but receives a compensatory award.
[11] Apart from minor changes related to the application of the working time reduction and the 35 hours workweek.
[12] Prud'hommes can be traced back to the Middle Ages.

the Prud'hommes funded by central administration, which is important for us since it gave national rules to the funding and much less reactivity to the local changes in the economic environment.

2. Litigation and firing cost: a simple theoretical model

We do not study here the theoretical impact of firing costs on labor market variables. This has been extensively examined elsewhere (see Bertola and Bentilola, 1992). We just try to illustrate how the enforcement of labor laws is related to firing costs. Thus, we need to model the incentive for the employer to commit an unfair dismissal and the incentive for the worker to challenge it. We depart from the traditional model of litigation proposed by Priest and Klein (1984) or Bebchuk (1984) to run a cost-benefit analysis similar to the one proposed by Flanagan (1989) for disputes related to the compliance to the National Labor Relations Act in the US. The employer can deliberately choose either lawful or unlawful behaviour in firing a worker. In the latter case, he incurs a lower cost (c_U) if the dismissal remains unchallenged by the worker. This cost c_U is lower than the cost of a lawful dismissal c_L .Yet the firm has to take into account the probability that the worker files a suit p_f and the probability p_w. Given the numerous outcomes a case might have, we could broadly define p_w as the probability of the worker to extract something from the judicial process whether it will be trough a formal agreement in front of the court or through a conciliation step in the "shadow of the law" after the case having been filed. For clarity purpose we define p_w as the worker's probability of winning at trial.

There is an uncertainty surrounding the decision of the judge because the firm can disguise the truth -possibly with the help of legal counselling- or because of the potential time-inconsistency of the labor court decisions or the novelty of the case. In case of unlawful behaviour, we write the expected firing cost as:

$$E(c) = p_f\left[p_w(c_L + F) + (1 - p_w)c_U + l\right] + (1 - p_f)c_U \quad (2.1)$$

Where F is a compensatory award for the worker and l is the firm's litigation cost. The marginal benefit of unfair dismissal of the firm is:

$$MB_{UD} = p_f\left[p_w(c_L + F) + (1 - p_w)c_U + l\right] + (1 - p_f)c_U - c_L \quad (2.2)$$

As for the worker, he chooses to challenge his unfair dismissal if his expected gain at trial is larger than the unlawful severance payment:

$$p_w(c_L + F) + (1 - p_w)c_U - k - c_U > 0 \quad (2.3)$$

k being the cost of litigation for the worker.

Facing an unfair dismissal, the worker sues as soon as:

$$p_w > p_w^* = \frac{k}{(c_L + F - c_U)} \quad (2.4)$$

Knowing that, the employer dismisses the worker unfairly if:

$$p_w(c_L + F) + (1 - p_w)c_U + l - c_L < 0 \quad (2.5)$$

That is:

$$p_w < p_w^{**} = \frac{c_L - c_U - l}{c_L + F - c_U} \quad (2.6)$$

As soon as the sum of litigation costs is below the difference in "direct" firing costs (that is c_L-c_U) , there may be 3 equilibriums: a low probability equilibrium where the firm does not comply as she will not be sued in doing so, a medium range p_w equilibrium where the firm does not comply even if she is sued since unlawful behaviours remain less costly and a high range p_w equilibrium where the firm complies given the cost of a lawsuit. An increase in p_w is associated to a shift from one equilibrium to the other along an increasing curve in the firing cost. The filing rate should decrease for high level of p_w since the firm has an incentive to lawful behavior.

We consider a cumulative distribution function G for the probability of worker's victory. We assume that this distribution is the same in each Prud'hommes area but that the truncation of this distribution varies over the areas according to institutional factors. A firm willing to fire L^* workers will face the expected firing cost:

$$E(fc) = \left[G\left(p_w < p_w^*\right)c_U + G\left(p_w^* \le p_w < p_w^{**}\right)c\left(p_w\right) + G\left(p_w^{**} \le p_w\right)c_L\right]L^* \qquad (2.7)$$

Where $c(p_w)$ is an increasing function of p_w bounded by c_U and c_L : $c_U \le c\left(\overset{+}{p_w}\right) \le c_L$.

An increase in the worker's litigation cost increases p_w^* since fewer workers are likely to file an unfair dismissal case. An increase in the firm's litigation cost will encourage the firm in lawful behaviors while the firing cost is at its upper bound. An increase in F pushes downward p_w^*. Cases of lower quality (e.g. low p_w) might be filed. In the same time, a larger award at trial might encourage employers to adopt lawful behaviours.

The parameters of the model can be related to the endogeneity issues when estimating the impact of our labor regulation enforcement indicators on labor market characteristics. A reverse causation from labor market characteristics to unfair dismissal outcomes might appear and the deterioration of labor market conditions can influence our EPL indicators. First, according to the legislator, F compensates the worker for past and future potential wages loss taking into account the difficulty to find a comparable new job. F is likely to be countercyclical of the labor market tightness. An economic downturn pushes p_w^* downward and p_w^{**} upward which result other things being equals in higher firing costs[13]. Second, drawing on an efficiency wage story, we might on the contrary suppose that, facing a higher penalty when they lose their jobs, workers put more effort on their job during a downturn and those who are fired are in better position to dispute the firing such as the overall distribution of p_w shifts upward. Third, economic conditions might also alter the overall distribution of p_w through judges' behaviors. Judges showing a pro-worker bias when labor market

[13] Empirically, Siegelman and Donohue (1995) find that cases of employment discrimination rise in downturns and are more likely to be lost. In our model, it will means that the decrease in p_w^* more than offset the decrease in p_w^{**} when computing the average worker's victory rate.

conditions deteriorate increase the firing cost faced by the firms (see Ichino et alii, 2003).

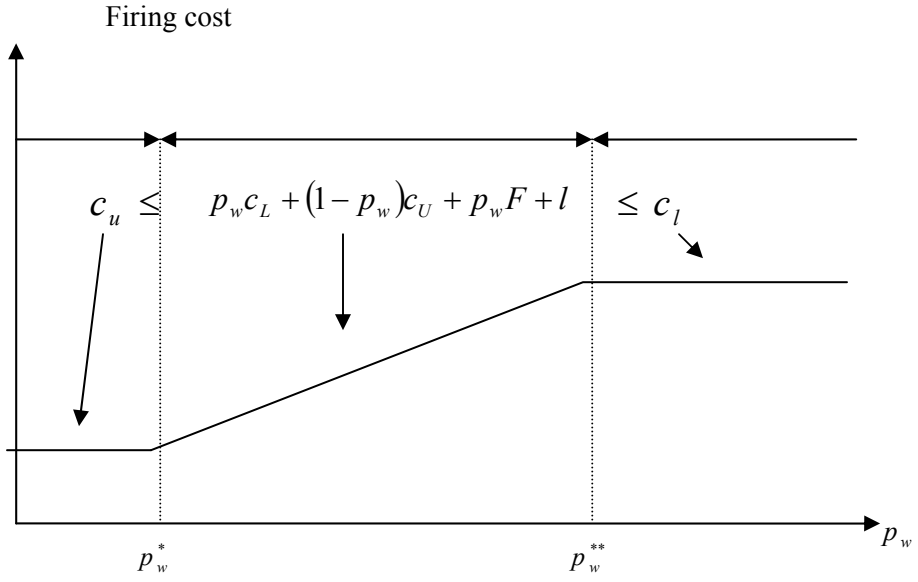


Figure 2.1

Firing cost and enforcement of the labor laws

In our instrumental approach we search for sources of changes in the distribution of p_w unrelated to current local labor market conditions. Aggregating labor flows at the level of the Prud'hommes's area, we interpret differences in local institutional settings and local characteristics as variations over litigation costs (k and l) across areas and time. Labor judges and judicial clerks involved in labor disputes are unequally distributed over the French territory leading to differentially congested labor courts. This implies an increasing marginal cost of challenging the dismissal following Buchanan's club theory of public goods and thus a decrease in the firing cost through a higher k. The choice of legal representation influences the expected gain from the

judicial process for both parties. Once a case has been filed, the worker and the firm optimize by choosing a lawyer trading off higher probability to prevail against the cost of representation. One might plausibly assume that a larger lawyer density induces a stronger competition among them and a higher rate of return for the use of legal services. When the worker takes a lawyer, it increases his chance of success p_w and this has an unambiguous impact on the firing costs. Judges at labor court in France are union members and their behaviors affecting p_w are likely to be shaped by a long tradition of industrial relations adopted by their union at the national level and loosely related to local economic developments. We will discuss more in depth the exogeneity of these indicators in the following sections.

3. Data sets and descriptive statistics

3.1. Individual cases data set

3.1.1. Firms' and workers' characteristics

Our data source comes from administrative records made at the level of each Prud'hommes and collected by the statistical department of the French Ministry of Justice. Their primary goal is to monitor the labor courts' activities with an emphasis on speed of treatment. The data source is exhaustive for the period 1990 to 2004. It includes approximately 2 millions of individual cases.[14]

Apart from years 1993, 1994 and 1995, the number of cases treated by labor courts appears to be stable over the period, in stark contrast to what happened in some countries such as the UK where a sharp increase in cases took place (see Figure 2.2 and Burgess, 1999).

[14] We will not consider the 2% of cases involving employers as plaintiffs.

For each case, the sex and age of the employee-plaintiff is recorded. There is no precise information on her skill-level in the firm. Nevertheless, the "managers" section of the Prud'hommes only deals with high-skill employees and managers. Similarly, since low-income workers are eligible to financial help (13% of the cases), eligibility can be used as a low-income indicator. Approximately one half of these cases are susceptible of appeal, which implies that the sums at stake are larger than 5,000 euros (in 2005). 53% of the employees are represented by a lawyer.

Concerning firms' characteristics, we know the industry, the size and the Prud'hommes jurisdiction of the employing firm. However, we can only differentiate between firms with more and firms with less than 10 workers. The size of the firm has to be known by labor court judges because labor laws differ for small firms; in particular, they are less stringent and try to ease the financial costs of firing that could hurt them irreversibly. Small firms are overrepresented with 56% of the filed cases whereas they comprise 25% of the labor force.

For each case, the starting date, the ending date, the motives for dismissal, and the court decision are recorded. An average case takes one year (343 days) with a standard deviation of 9 months.

3.1.2. EPL enforcement indicators

Using the individual cases data set, we are able to compute several EPL indicators for each Prud'hommes. A case can follow various paths and every grouping is somewhat arbitrary. For example, as what we call "agreement" is registered by the court under the acceptation of both parties, one can argue that it can be interpreted as a winning case, a rational plaintiff stopping the judicial process only if her own interests have been satisfied. On the contrary, she might realize the low quality of her case in term of probability of winning and then renounces to her claims. We start computing

the EPL indicator using the most disaggregated classification: "winning" (resp. "losing", "null and void", "crossed out", "conciliated", "agreement" and "tied") is computed as the ratio of the cases classified as worker's victory (resp. defeat at trial, null and void, crossed out, conciliated, having led to an agreement, having been judged by a professional judge) in year *t* over the number of cases disposed in year *t*. We then group cases in "agreed" (cases conciliated or having led to an agreement), "dropped" ("null and void" or "crossed out") and "trial" (cases having reached trial). We also compute the worker's victory rate at trial ("victory").

We can rank a priori our EPL indicators according to what the outcome might cost to the firms. The most favorable outcome for the firm is the case being dismissed by the court ("Null and Void") or by the worker ("crossed out"). Even if one can argue that these "dropped" cases might correspond to agreements not reported to the court it is safer judiciary speaking for both parties to report the deal to the Prud'hommes. The less favorable outcome is the case reaching trial and being won by the worker. A case leading to a firm's victory at trial is not obligatory less costly than one classified after conciliation or an agreement since it implies additional litigation costs. In the theoretical literature, the litigation process is usually considered as economically inefficient as the outcome could have been reached otherwise by both parties in a bargaining process at lower costs. Hence we can consider that a case reaching trial is likely to be more costly than a case conciliated or dismissed. Beyond the outcome of the case, we use as an additional EPL indicator and a more direct evaluation of the costs related to the suits the fraction of firms and workers that are represented by a lawyer during the judicial process.

About 60% of cases ended by a trial, among which 75% led to a worker's victory (see Table 2.1 and 2.2). Despite the mandatory step of conciliation, only 11% of the cases ended at this stage. Taking into account cases that led to an agreement notified

to the court or to a withdrawal on the worker's side, at least 20% of the filed cases led to an agreement. 20% is also the proportion of cases having been dropped. All EPL indicators display a very strong variance over time and across Prud'hommes. In comparison to what is observed in a country sich as the UK, a large fraction of workers and firms are represented by a lawyer despite other means of representation are available. Despite the conciliation step which promotes a quick and costless resolution of the cases, labor disputes seem to induce important litigation costs.

Table 2.1
Case outcomes: definition of variables

Names	Definition
Winning	Number of workers' victories at trial over total number of cases
Losing	Number of workers' defeats at trial over total number of cases
Null and Void	Number of cases classified as "Null and Void" over the total number of cases
Crossed Out	Number of cases classified as "Crossed out" over the total number of cases
Conciliation	Number of cases conciliated through the mandatory conciliation step over the total number of cases
Agreement	Number of cases having led to an agreement notified to the judge over the total number of cases
Tied	Number of cases having led to a professional judge's decision over the total number of cases
Dropped	(Null and Void +Crossed Out)/(Total number of cases)
Agreed	(Conciliation +Agreement)/(Total number of cases)
Trial	(Winning+Losing)/(Total Number of Cases)
Victory	(Winning)/(Winning +Losing)
lawyerf	Number of cases where the firm is represented by a lawyer over the total number of cases
lawyer	Number of cases where the worker is represented by a lawyer over the total number of cases

Admittedly starting from a high base, we do not observe in France a strong increase in the number of cases brought to the labor courts. In absolute terms, the number of filed cases increased by 10% over the 1990 to 2004 period. The number of filed cases by unemployed workers hovered around five percent over the same period.

Cross-country analyses of EPL are built using aggregate indices ranking countries in terms of labor market flexibility as defined within written legislation. This approach leaves aside the degree of law enforcement, conditional on the rules as well as cyclical

variation. Numbers in Table 2.2 as well as the very large filing rate (around 25% of dismissals are contested in France) should lead us to conclude that the degree of enforcement of labor regulations is very high in France.

Table 2.2
Summary statistics: case outcomes

Case Outcome	Mean*	Std.	Min	Max
Winning	0.45	0.09	0.00	0.93
Losing	0.15	0.06	0.00	0.78
Null and Void	0.06	0.05	0.00	0.62
Crossed Out	0.13	0.08	0.00	0.74
Conciliation	0.11	0.06	0.00	0.78
Agreement	0.10	0.06	0.00	0.73
Tied	0.06	0.06	0.00	0.77
Dropped	0.20	0.09	0.00	0.75
Agreed	0.20	0.09	0.00	0.81
Trial	0.60	0.10	0.13	0.95
Victory	0.75	0.09	0.00	1.00
Lawyer	0.43	0.15	0.00	0.95
Lawyerf	0.58	0.15	0.00	0.95

Notes: we first compute the proportion of cases with outcomes *i* in year *t* at the Prud'hommes level using the data set of individual cases collected from 1990 to 2004 by the French Ministry of Justice. We then take the means of these proportions over the 264 Prud'hommes over the 1990-2004 period.
Sources: Prud'hommes data from Ministry of Interior.

Regressing the different indicators of outcomes on local measures of the business cycle shows that the enforcement behavior of these regulations is strongly correlated with the cycle (see Table 2.3) and that traditional labor regulation indices are highly imperfect in this respect. A high unemployment rate is associated with a high trial rate and a small number of "agreed, conciliated or dropped" cases. By contrast, the worker's victory rate seems to be less cyclical. If the number of unemployed workers is correlated with the number of fired workers, we can compute a filing rate. The same table shows that downturns are characterized by a low filing rate but a high litigiousness, with workers that are less willing to give up their case.

Table 2.3
Case outcomes and the business cycle

Outcome variable:	Unemployment Rate	Unemployment Rate (-1)	R-squared
Winning	0.184 (0.16)	0.856*** (0.16)	0.39
Losing	0.157 (0.10)	0.0506 (0.10)	0.28
Null and Void	0.236*** (0.073)	-0.613*** (0.074)	0.37
Crossed Out	-0.301** (0.12)	0.331** (0.13)	0.53
Conciliation	-0.457*** (0.095)	0.150* (0.082)	0.54
Agreement	0.180* (0.10)	-0.774*** (0.12)	0.31
Tied	-0.404*** (0.095)	0.370*** (0.099)	0.33
Dropped	-0.0648 (0.13)	-0.283** (0.14)	0.50
Agreed	-0.276* (0.15)	-0.624*** (0.15)	0.46
Trial	0.341** (0.16)	0.907*** (0.17)	0.41
Victory	-0.143 (0.15)	0.305** (0.15)	0.31
Filerate	-0.589*** (0.17)	-1.079*** (0.21)	0.59

Notes: Each row displays the regression of an outcome variable on the current and lagged local unemployment rate and Prud'hommes fixed effects. The local unemployment rate is defined as the number of unemployed enrolled at the local branch of the National Employment Agency (ANPE) over the 1999 census local workforce. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Sources: Prud'hommes data from Ministry of Justice. Others from Insee.

3.2. Local employment data set

Local employment flows at the establishment level are computed from the SIRENE files, maintained at the French statistical institute (INSEE). These files give the precise location (city within a "département") for each establishment. We compute a set of Davis and Haltiwinger (1992) indicators over the 1990-2004 period: job creation (both at the extensive and the intensive margin), job destruction (both at the extensive and the intensive margin), and net job creation variables over the 1990-2004 period (using Haltiwanger (1989)'s definitions). These measures are aggregated by industry (service, trade, manufacturing) and size of the establishments (more or less

than 10 employees) at the city level as well as at the Prud'hommes level, using a 1999 correspondence between cities and Prud'hommes provided by the Ministry of Justice. In comparison with cross-country analyses, these indicators also show a high heterogeneity across periods and the 264 areas.

To measure local unemployment, we use the number of unemployed as registered at the National Labor Agency (ANPE) for each city as well as the city labor force as measured at the 1999 Census. Finally, from 1997 on, we are able to distinguish the reasons for losing one's job (economic or personal dismissal, entry into the labor force, end of temporary contract...)

In order to test the impact of EPL on employment rates, we use multiple waves of the French Labor Survey. In March of every year the French Statistical Institute (INSEE) conducts a Labor Force Survey (*Enquête sur l'Emploi*), interviewing roughly 130,000 people who are asked a set of standard questions. In particular, we know for each individual his or her "département" of residence. The "Départements" are the French equivalent of the American county. There are 95 départements in metropolitan France. We use the Labor Force Survey for the years 1990 to 2004. So, for each département and year, we construct averages of the following variables: employment-to-population rates by sex, age, and level of education, share of workers in temporary jobs, share of workers employed part-time but would rather work full time. From the French Public Employment Service, we obtain the share of long-term unemployed (unemployed for more than one year). Our business cycle indicator is the regional change in GDP[15] as computed by INSEE.

[15] There are 22 régions in Metropolitan France. Each region is composed by approximately 4 "départements".

3.3. Election data set

The elections for the Prud'hommes are crucial in France -at least for the trade unions- as they are the only way to assess unions' representativeness at the national level. Over the period under review, 4 rounds of elections took place, in 1987, 1992, 1997, and 2002. For each round, we collected the share of judges affiliated to each union as well as the number of judges by section at the Prud'hommes level. The number of judges did not change from 1993 to 2002.

For the 1992, 1997 and 2002 rounds we have the turnout rates and the number of workers who were enrolled on the electoral lists for each Prud'hommes. Union shares of votes are rather stable over time but display a great deal of heterogeneity across Prud'hommes (see Table 2.4).

Table 2.4
Share of judges by unions

Union	Mean	Std	Min.	Max.
CGT	37%	11%	0%	71%
CFDT	28%	10%	0%	63%
FO	22%	7%	0%	50%
CFE-CGC	8%	4%	0%	21%
CFTC	4%	6%	0%	44%

Note: Number of observations: 1056 (264 Prud'hommes over 4 electoral terms)
Sources: French Ministry of Labor

3.4. Additional judicial data

In France, each lawyer has to get licensed and registered at the Bar ("barreau") in order to be entitled to practice. We know the number of lawyers registered at each "barreau" from 1996 to 2006. It allows us to have a local estimate of the number of lawyers by employed worker. As there are fewer bars in France than Prud'hommes(181 versus 264), we match each Prud'hommes to the closest bar using orthodromic distance and compute the number of lawyers available to employees

depending on one single Prud'hommes. Using the 1999 Census, the national average is 77 lawyers per 10000 employees, going from a minimum of 14 (Creuse) to a maximum of 868 (Paris). From our micro data set on Prud'hommes cases, we are able to compute the number of workers who were represented by a lawyer at the labor court. We observe a very high correlation (0.68) between the lawyers' densities computed from these two different sources. Lawyer data cover a shorter period than our other instruments (1996-2004).

In addition, we obtained two other measure of labor laws enforcement: the number of "greffiers" (clerks) employed by the Ministry of Justice attached to tribunals in the area of each "Tribunal d'instance"[16], closest to the labor court ("Staff" hereafter) over the 1992-2004 period[17] and the number of greffiers directly employed at the local labor court but over a shorter period (1997-2004). "greffiers" are civil servants in charge of all the administrative tasks, which include assisting the workers in filing their cases as well as writing the judgment terms.

4. Identification strategy

4.1. An instrumental approach

4.1.1. Estimating equations

We estimate the following econometric model:

$$Labor_{p,t} = \alpha_1 BC_{p,t} + \alpha_2 BC_{p,t-1} + \beta EPL_{p,t} + \delta_p + \gamma_t + \varepsilon_{p,t} \quad (2.8)$$

Where $EPL_{p,t}$ is an enforcement of EPL indicator at the unit of observation p and for the year t. $BC_{p,t}$ is a business cycle indicator. The unit of observations is the

[16] As there is more "tribunal d'instance" than Prud'hommes(460 versus 264), we use again orthodromic distance for the matching.
[17] Data linearly interpolated for 1993 and 1994.

Prud'hommes or the département area. Our labor market variables $Labor_{p,t}$ are either the labor flows at the Prud'hommes level or the employment rates, relative employment rates, unemployment rates and labor flows at the département level. δ_p is a Prud'hommes or département fixed effect; γ_t is the year effect and $\varepsilon_{p,t}$ is the error component. In each regression, observations are clustered at the local labor market area level. The labor market areas defined by the jurisdiction of the Prud'hommes show a large heterogeneity in size of employment. Half of the Prud'hommes accounts for about 80% of the 1991 total employment. We weight our regressions by the share in the total employment at the start of the period under review (1991).

We are interested in estimating the parameter β measuring the impact of the judicial activity on the labor market characteristics. As underlined in section 3 the judicial activity might depend on the current labor market conditions and we wish to adopt an instrumental approach to estimate a causal effect projecting our EPL indicators on instruments Z, business cycle indicators, yearly dummies and local labor market fixed effects:

$$EPL_{p,t} = \mu_1 BC_{p,t} + \mu_2 BC_{p,t-1} + \lambda Z_{p,t} + \delta_p + \gamma_t + \upsilon_{p,t} \qquad (2.9)$$

Given the lack of time variability of some of our instruments, we will also consider pooled regressions. As our observations are clustered at the local labor market level, this covariance structure is less intrusive encompassing a "traditional" random effect covariance structure.

Clearly, the business cycle BC is endogenous and needs to be instrumented: unobserved economic shocks might simultaneously impact the quality of the cases brought to labor court, bias the judges in their decisions, and affect the labor flows. To do this, we instrument the measure of local business cycles (number of unemployed registered at the local employment agency on the 1999 local labor force) by the *national* unemployment rate using the following relation:

$$U_{p,t} = \delta_p + \gamma_t + \mu_p U_{aggregate} + \eta_{p,t} \quad (2.10)$$

Then, we use the *predicted* value $\hat{U}$ of U by (3) to compute our exogenous measure of cycle BC as $\left(\overline{U} - \hat{U}\right)/\overline{U}$ where $\overline{U}$ is the average of the *predicted* local unemployment rate $\hat{U}$. At the département level, we alternatively use this indicator and the regional GDP[18] which is the most disaggregated measure of economic growth available in France on a yearly basis.

4.1.2. Instruments

Suitable instruments for estimating the parameter β must explain the average outcomes observed at the level of the labor court or the département and being exogenous to current labor market developments. We claim that the institutional settings of the Prud'hommes itself and the local legal environment provide convincing instruments.

Lawyers

One of our instruments is the number of lawyers enrolled at the local bar scaled by the total employment of the Prud'hommes area or the département in 1991 ("lawyer density" hereafter). A high lawyer density is likely to reduce legal fees thanks to a higher competition (see Siegelman and Donohue, 1995 for a similar argument). It also helps to disseminate legal expertise and judicial knowledge of labor disputes among the population of workers.

It should correspond to a lower cost of litigation for the worker and hence influences the outcome of the case.[19] One could argue that the lawyer's choice of

[18] A region in France groups on average 4 départements.
[19] Logit regressions using our data set of individual cases reaching the trial stage shows that hiring a lawyer against a unrepresented firm increases the probability of worker victory by about 4%.

location depends on local economic conditions. First, labor disputes are only a small amount of the total number of civil cases (11% at the national level[20]).

Table 2.5

Predicting powers of labor flows on staff and lawyer density

Flows=	Job Destructions		Job Creations		Job Net Creations	
	lawyers	staff	lawyers	Staff	lawyers	staff
Flows (-1)	-0.00106	-0.0000414	-0.000151	0.0000736	0.000754	0.0000984
	-0.0009	-0.00034	-0.0011	-0.00018	-0.00054	-0.00029
Flows (-2)	-0.000687	-0.000363**	0.00113	-0.000234	0.00119	0.000115
	-0.00047	-0.00017	-0.0016	-0.00039	-0.00091	-0.00025
R-squared	0.15	0.11	0.15	0.11	0.15	0.11
Observations	2112	2904	2112	2904	2112	2904

Notes: Robust standard errors are between parentheses.*** p< 0.01, **p<0.05, *p<0.1. Observations are for 264 Prud'hommes and for the years 1996-2004 (2,112 obs.) or 1992-2004 (2, 904 obs.). Each regression includes year and Prud'hommes and local business cycle indicators. Prud'hommes' jurisdiction 1991 total employment is used as weights.Clusters: Prud'hommes level.

Sources: Prud'hommes data from Ministry of Labor. Job flows from Sirene files on establishments.

Second, in order to get licence to practice, a lawyer must enrol the local bar which jurisdiction the Prud'hommes belongs to. This requirement and the building of a reputation and a clientele induce a low mobility of lawyers from a region to another. Moreover, a lawyer typically enrolled the bar the city where she studied and her location preference is likely to be unrelated to the incidence of labor disputes litigation. Supporting this, lagged labor flows are found to have no predicting power on lawyer density including fixed effects and yearly dummies (see Table 2.5). Thus the lawyers' density influences judicial outcomes through the cost and the efficiency of the litigation process but being supposedly exogenous to current labor market developments makes it a plausible instrument.

[20] See available on line Info Stat justice (2005) « Une évaluation de l'activité des juridictions en 2004 » Numéro 80.

Clerks and judges

We also consider as instruments the number of judges and staff in charge of dealing with judicial cases scaled by the local 1991 employment. They are likely to have an impact on judicial decisions as well. Judicial activity can be modelled as a production function for the case disposition. Benstock and Haitovsky (2004) using a panel data on Israeli courts find that judges complete more cases as their caseloads grow and complete fewer cases when new judges are appointed to their court. In the case of Prud'hommes, the sociological literature[21] supports this results discovering that facing an increasing number of cases and having to meet some productivity requirements, judges tend to be more meddlesome implying crossing out more cases for administrative reasons to speed up the process and lighten their burden. Less judges or staff would imply more dismissed cases which clearly diminish the firing costs of the firm.

In the same vein of our lawyer density indicator, we consider the total number of ministry of justice civil servants working at the civil court independently on the type of cases they deal with. Their allocation planned at the national level responds to budget constraints and changes in the local caseload. At stressed before, Prud'hommes' cases represent a small share of the total civil case load and their steady number across the years is unlikely to have driven massive reallocations of judicial personnel. We check again that the clerks' density can not be well predicted by lagged labor flows (see again Table 2.5).

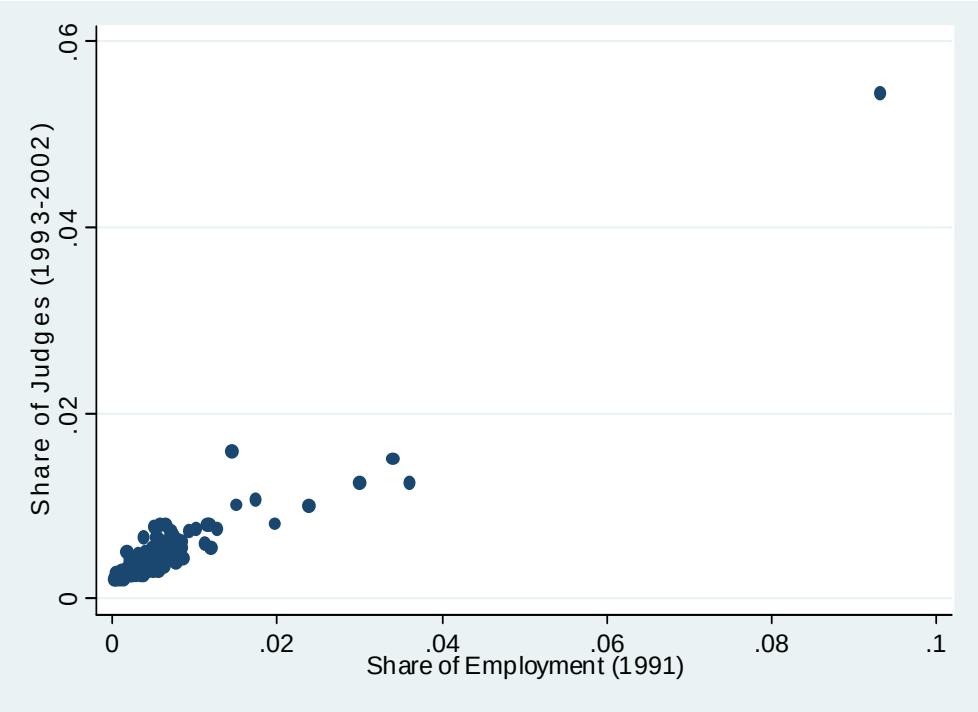
As mentioned before the number of judges of Prud'hommes changed only twice over the period under review and hence the variation in the judge density is mainly cross-sectional. This stability and the allocation of judges across Prud'hommes let us claim that their density is exogenous from local economic development. The number

[21] See Bonaffé-Schmidt (1987).

of judges is the outcome of past decisions ("Réforme Boulin", 1979). As already stressed, Prud'hommes' judges are unequally spread over the French territory. Before 1979, the cost of the Prud'hommes was born by the local administration and their creation mostly depended on a bargaining process between unions, firms, and the local administration. For instance, in those years (before 1979) 6 "départements"[22] out of 95 did not have a single labor court. In 1979, a legislation pushed by the Minister of Labor Robert Boulin transformed the financing and made it depend exclusively on central government resources. In addition, at least one labor court had to be present in every zone endowed with a civil tribunal ("Tribunal de Grande Instance"). Since then, every additional change in the number of judges within a labor court or the opening of a new labor court depends on the outcome of a bargaining between the unions, employers' federations, local, and national government. The process is supervised by a national agency ("Conseil national de la Prud'homie"). This system generated strong rigidities with the consequence of essentially freezing the number of judges. This number stayed roughly the same since 1979; every bargaining party preferring the status-quo.

Figure 2.2 illustrates the dispersion of the Prud'hommes across the French territory. We compare the proportion of the judges working at the local Prud'hommes with the size of the local labor market in 1992.

[22] A French "département" is equivalent to an American county.



Sources: Election data from Ministry of Labor. Employment data from the Insee Sirene files on establishments

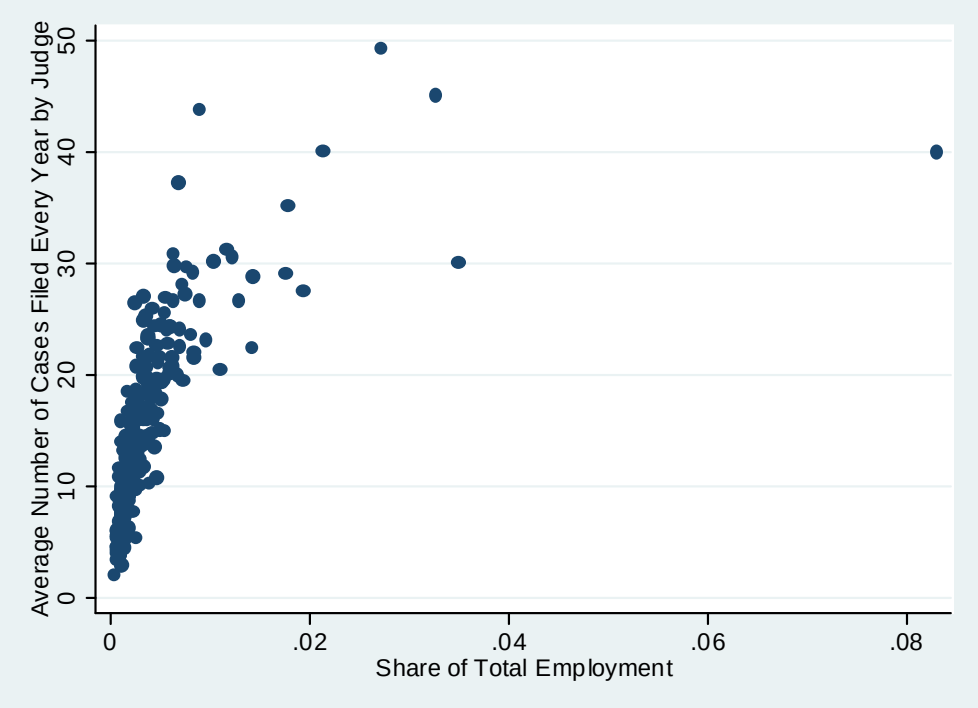
Figure 2.2
Allocation of judges

For similar labor market sizes, the number of judges in some Prud'hommes is twice that found in other Prud'hommes. Turning to labor court activity, we plot in figure 2.3 the average number of cases disposed every year by judges, which can be a measure for judges' productivity. Hence, in some Prud'hommes, judges deal with 10 times more cases than judges in other Prud'hommes.

Judges are elected in December. Some changes took place in 1992 (in comparison with 1987) and in 2002 (see tables 2.6 and 2.7). Digging into administrative archives of the French Ministry of Labor, the number of cases brought to labor courts seems to be the main apparent quantitative indicator used to decide these changes.[23] Thus, nine

[23] In the US, the Administrative Office of the United States Court uses statistics over the average time spent by judges to handle a case of a given type to give an appraisal of judge allocation.

labor courts were closed in 1992 because less than 100 cases were examined in a year. However, not all labor courts with less than 100 cases a year were closed.



Sources: Election data from Ministry of Labor. Employment Data from the Insee Sirene files on establishments.

Figure 2.3
Productivity of judges across Prud'hommes

Table 2.6
Number of judges by section and change over the electoral terms

		Change in % between term t and term t-1 (t/t-1)		
	Number of judges in 1987	1992/1987	1997/1992	2002/1997
Manufacturing	2213	-15	0	-9
Service	1266	0	0	11
Trade	1831	5	0	1
Management	1278	10	0	4
Total	6588	-1	0	1

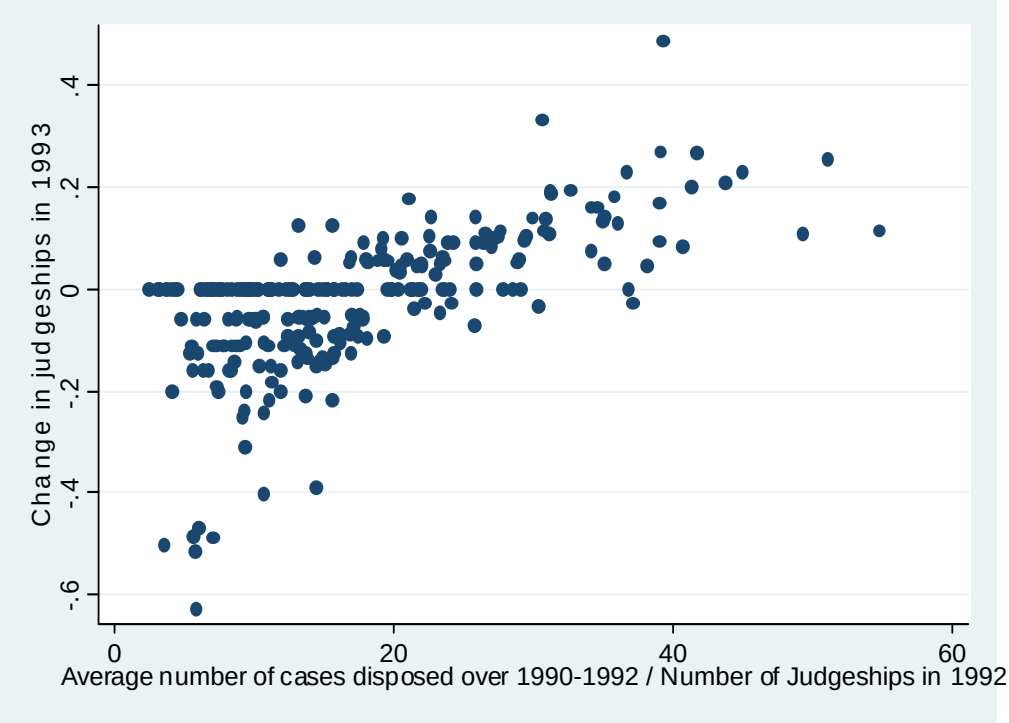
Sources: French Ministry of Labor.

Table 2.7

Breakdown of change in the number of judges across the 264 Prud'hommes

	1992 Election			2002 Election		
	Manufacturing	Service	Trade	Manufacturing	Service	Trade
lost 3 judges or more	17	4	4	7	0	0
lost 2 judges	17	0	0	8	0	0
lost 1 judges	16	2	6	27	1	25
no change	44	85	58	56	79	58
gained 1 judges	3	5	17	1	9	9
gained 2 judges	1	2	10	1	5	3
gained 3 judges or more	1	2	6	0	6	4
	100	100	100	100	100	100

Note: read as % of Prud'hommes that lost (or gained or no change) x judges in the election year *t*
Sources: French Ministry of Labor.



Sources: Election data from Ministry of Labor. Employment Data from the Insee Sirene files on establishments.

Figure 2.4

Change in judges in 1993 and productivity of judges

Figure 2.4 also shows that, along a very wide range of judges' productivity, no change took place (30 cases a year per judge being a rough threshold for an increase in the number of judges). Besides, lags of labor flows are unable to predict the change in the number of judges that occurred in 1993. We try to give a sense of what might go on in the next lines. Labor courts are divided into 4 "sections" according to the industry of the firm (Agriculture, Retail trade, Manufacturing, Services). Labor court elections in France are the only way to gauge the representativeness of a union and are critical for them. CGT, the most important union in France, is traditionally well represented in manufacturing and is reluctant to accept a reduction in the number of judges allocated to the manufacturing section, even if the share of workers employed in the manufacturing industry has declined in the geographical area.[24] To illustrate this point, we regress (using 1993 data) the local share of judges in a given section on the corresponding share of local employment (see tables 2.8 and 2.9). We clearly see that there is no significant link between these shares in the manufacturing sector and that the service industry is locally under-represented.

Table 2.8
Breakdown of judges and employment by industry

	1990-1992		1993-2002	
	Employment	Judges	Employment	Judges
Manufacturing	35%	41%	53%	37%
Trade	47%	33%	36%	36%
Service	18%	26%	11%	27%

Notes: A change in French classification of products occurred in 1993. Proportion are averaged out over the period under review. Number of observations: 264 Prud'hommes
Sources: Election data from Ministry of Labor. Employment Data from the Insee Sirene files on establishments.

[24] However, some judges were reallocated from a section to another in 2002, mostly from "Agriculture" and "Manufacturing" to "Trade" and "Services".

Table 2.9
Misallocation of judges by industry

Dependent variable: 1993 local share of judges in the industry	Manufacturing	Trade	Service
1993 local share of employment in the industry	0.00156	0.203***	-0.451***
	(0.014)	(0.015)	(0.031)
Observations	264	264	264
R-squared	0.00	0.19	0.21

Notes: Columns (2) (3) and (4) display the regressions of the proportion of local number of judges allocated to industry *i* in the national aggregate on the corresponding proportion of employment. Standard errors in parentheses. * significant at 10%; ** significant at 5%, ***significant at 1%.
Sources: French Ministry of Labor, Insee Sirene Files

The judge and staff densities influence the disposition of the cases through a congestion effect. Their allocation depends on institutional settings which outcomes seem largely disconnected from local economic developments and let us think that they offer the characteristics of good instruments.

Looking for a more time varying indicator of the congestion effect, we also use as instrument the lagged duration of judicial process. A high duration is likely to deter the workers to file a case and ease judicially speaking the firing of workers.

Union shares of votes

We also use as instrument the share of judges working at the local labor court and affiliated to one of the unions running for the Prud'hommes elections. The union color of the Prud'hommes is likely to influence the judicial outcomes. Prud'hommes elections in France are keys to determine the representativeness of each union among the labor force. A large share of votes increases bargaining power at the firm and the national level. For instance, over the period under review, a share larger than five percent at the national level was a necessary condition to allow a union to take office in a firm with more than 50 employees and this irrespectively of the representativeness of the union at the firm level. The political platforms of the unions for these elections are their bargaining behaviors. CGT is often perceived as a hard line union with a

strong political left ideology and is less prone to negotiate: the CGT leader was a member of the central committee of the communist party until 2001. From 1995 to 2004, the CGT signed on average one third of the collective agreements at the industry level against around seventy percent for the CFDT sixty percent for the CFTC[25]. CFDT and CFTC are known as softer and more likely to conciliate. One could argue that facing a higher probability to lose their jobs workers would tend to vote for hard line unions. First, it would imply that every worker's opinion is to favour clash over dialogue to obtain what they want. Second, as shown by Andolfatto (1988) the map of union votes overlaps the map of political votes and is more related to traditional culture and local industrial history than to current economic condition. The moderate Western France is characterized by a high turnout in favor of CFDT and CFTC and contrasts with left territories from the south west and the north voting for CGT. Third, we showed that the institutional setting of the Prud'hommes makes appear (putting it midly) some discrepancies between Prud'hommes characteristics and local economy characteristics. Judges' behaviors determined by their union affiliation and a share of local votes independent of current local economic developments –remember that an election takes place only every five years- let us think that the union color can instrument convincingly the judicial activity.

We can note the variety of origins in our instruments: "staff" comes from the allocation by the central government of civil servants into local jurisdictions, "judges" and the union colours at the Prud'hommes are set by the institutional settings of the Prud'hommes and industrial relations, "lawyers" is related to location preferences of the lawyers.

[25] See page 63 « La négociation interprofessionnelle en 2004» part 2, page 63.Rapport du Ministère du Travail. Available on line at http://www.travail-solidarite.gouv.fr/IMG/pdf/NC_2004_-_2_La_negociation-2.pdf.

4.1.3. Results

When possible, we test the (statistical) validity of our instruments by the Sargan-Hansen tests of over identification.

Labor flows and employment rates: pooled regressions

Pooled regressions on case outcomes confirm the results found in the sociological and the industrial relations literature.[26] A large judge density leads to a larger number of cases reaching trial and a lower number of cases dropped or dismissed. A strong presence of the CFDT insures more conciliations (see Table 2.10).

Table 2.10
First stage pooled regressions at the Prud'hommes level

	winning	Trial	conci	drop
Judges	24.90***	27.46***	0.787	-28.25***
	(7.63)	(7.80)	(6.30)	(7.20)
Staff	3.690	3.248	-2.298	-0.950
	(2.27)	(2.03)	(1.91)	(1.60)
%union share				
FO	-0.00893	0.0124	0.111*	-0.124*
	(0.062)	(0.066)	(0.061)	(0.071)
CFDT	-0.0618	-0.108**	0.347***	-0.239***
	(0.052)	(0.054)	(0.043)	(0.055)
Others	-0.0461	-0.105*	-0.0577	0.163***
	(0.051)	(0.055)	(0.047)	(0.043)
R-squared	0.12	0.18	0.26	0.19

Notes: Robust standard errors are between parentheses. * significant at 10%; ** significant at 5%, ***significant at 1%.. Observations are for 264 Prud'hommes and for the years 1992-2004 (3,168 obs.). Each regression includes year and local business cycle indicators. Prud'hommes jurisdiction 1991 total employment is used as weights. Clusters: Prud'hommes level.
Sources: Prud'hommes data from Ministry of Labor. Sirene files on establishments

A large trial rate decreases the volatility of labor flows. The conciliation rate instrumented by the share of CFDT judges in the total number of judges leads to

[26] We find similar results using the data set of individual cases (see Table 9).

similar results. On the contrary, a high drop rate causes higher employment fluctuations (see Table 2.11).

Table 2.11

Instrumental pooled regressions at the Prud'hommes level

	Winning	trial	Conci	Drop
Dependent variable: Job Destructions				
EPL	-0.959***	-0.865***	-0.253***	0.725***
	(0.32)	(0.26)	(0.055)	(0.14)
P-value Hansen J statistic	0.26	0.35		
Dependent variable: Job Creations				
EPL	-0.683***	-0.648***	-0.234***	0.664***
	(0.25)	(0.22)	(0.058)	(0.14)
P-value Hansen J statistic	0.11	0.14		
Dependent variable: Job Net Creations				
EPL	0.276**	0.218***	0.0191	-0.0613
	(0.12)	(0.081)	(0.030)	(0.047)
P-value Hansen J statistic	0.1	0.04		
Instruments	Staff,Judge	Staff,Judge	CFDT	Judge
Test of excluded instruments F	4.82	7.32	62.5	19.22
Observations	3168	3168	3432	3432

Notes: Each regression includes year and local business cycle indicators. Prud'hommes' jurisdiction 1991 total employment is used as weights. Observations are for 264 Prud'hommes and for the years 1992-2004 (3,168 obs.) or 1991-2004 (3, 432 obs.). Clusters: Prud'hommes level. Robust standard errors are between parentheses. * significant at 10%; ** significant at 5%, ***significant at 1%.

Sources: Prud'hommes data from Ministry of Labor. Job flows from Sirene files on establishments.

We are able to run an over identification test on the trial rate. With regards to the critic values computed by Stock and Yogo (2005), Judges and staff are considered together as rather weak instruments as the F statistic is a little above seven. The Hansen J Test does not reject their validity.

At the département level, we find that the staff and the lawyer densities increase the trial and the winning rate (see table 2.12). The lawyer density is negatively related to the number of cases that are conciliated but positively to the number of cases that are dismissed. Lawyers might filter out the low quality cases but might harden the judicial process for the ones likely to win. The share of CFDT judges is positively associated to the conciliation rate like at the Prud'hommes level but negatively to the

drop rate. Our instruments are both satisfactory in term of F statistics and Hansen tests.

Table 2.12

First stage pooled regressions at the Département level

	winning	Trial	conci	drop
Judges	12.90***	11.45***		
	(3.93)	(4.32)		
Staff	25.94*	40.08***		
	(13.3)	(14.6)		
Lawyers			-0.567*	1.668***
			(0.32)	(0.57)
%union share				
CFDT			0.364***	-0.206**
			(0.059)	(0.089)
R-squared	0.26	0.30	0.40	0.14
Observations	1235	1235	855	855

Notes: Robust standard errors are between parentheses. * significant at 10%; ** significant at 5%, ***significant at 1%. Observations are for 95 Départements and for the years 1992-2004 (1,235 obs.) or 1999-2004 (855 obs.). Each regression includes year and regional business cycle indicators. Départements 1991 total employment is used as weights. Clusters: Départements level.
Sources: Prud'hommes data from Ministry of Labor. 1991 employment from Sirene files on establishments.

Some of the results obtained by our pooled regressions at the département level displayed in table 2.13 are puzzling: the conciliation rate and the trial rate both reduce labor flows the former even leading to a net job creations which is consistent to what we find at the Prud'hommes level. Nevertheless, their impact on the employment and unemployment rates go in opposite direction. A positive net job creations caused by a higher trial rate even translates into a LOWER employment rate. This could be reconcile if we consider that the trial rate has a short term impact on labor market by reducing labor flows which leads to a long term negative impact on the employment rates. However, we should then observe a similar impact for the conciliation rate and this is not the case. One could argue that Labor Force Surveys are totally different alternative data sources for assessing labor market performance that the SIRET files.

Table 2.13

Instrumental pooled regressions at the Département level

Dependent Variable:	Winning	H	Trial	H	Drop	H	Conci	H
Job Destructions	-0.459**	0.065	-0.543***	0.141	0.491**	0.236	-0.216***	0.303
	(0.22)		(0.20)		(0.22)		(0.08)	
Job Creations	-0.208	0.0581	-0.321	0.106	0.628***	0.13	-0.311***	0.181
	(0.23)		(0.20)		(0.21)		(0.08)	
Net Job Creations	0.251**	0.995	0.222***	0.554	0.137	0.893	-0.0952	0.614
	(0.11)		(0.08)		(0.12)		(0.06)	
Employment rate	-0.907***	0.198	-0.929***	0.362	-0.333	0.21	0.461**	0.392
	(0.34)		(0.32)		(0.46)		(0.18)	
Relative Employment Rates:								
Female/Male	-0.883**	0.115	-1.030***	0.205	0.174	0.186	0.142	0.309
	(0.40)		(0.36)		(0.43)		(0.16)	
15-34 yrs/35-49 yrs	-0.397	0.453	-0.411*	0.585	0.166	0.311	0.000746	0.377
	(0.26)		(0.25)		(0.29)		(0.16)	
50 yrs+/35-49 yrs	-0.904**	0.0912	-1.180***	0.161	0.909***	0.333	-0.486***	0.307
	(0.43)		(0.30)		(0.33)		(0.18)	
<High School/Some College	-0.0467	0.183	-0.111	0.244	-0.788**	0.34	0.602***	0.53
	(0.29)		(0.23)		(0.31)		(0.19)	
Unemployment rates, Part-time and temporary jobs:								
Unemployment rate	0.431**	0.436	0.408**	0.731	0.538*	0.169	-0.491***	0.466
	(0.19)		(0.17)		(0.28)		(0.12)	
Youth Unemployment rate	0.300**	0.167	0.343***	0.27	0.172	0.0803	-0.235***	0.192
	(0.14)		(0.12)		(0.16)		(0.08)	
% Short Term Unemployment (< 1 year) in Total Unemployment	0.0245	0.187	0.06	0.219	-1.781***	0.628	1.060***	0.31
	(0.34)		(0.33)		(0.62)		(0.22)	
Temporary jobs	0.309***	0.624	0.283***	0.968	-0.0599	0.995	0.039	0.771
	(0.11)		(0.10)		(0.07)		(0.04)	
Constrained Part-time	1.221***	0.438	1.131***	0.906	-0.35	0.0795	-0.167	0.179
	(0.41)		(0.42)		(0.50)		(0.20)	
Part-time	0.756***	0.192	0.732***	0.465	-0.310*	0.582	0.165	0.483
	(0.23)		(0.21)		(0.19)		(0.10)	

Table 2.13 (Continued.)

Instruments	Judges, Staff	Judges, Staff	Lawyers, CFDT	Lawyers, CFDT
Test of excluded instruments F	7.66	10.34	8.89	19.41
Observations	1235	1235	855	855

Notes and reading: -.459 (second row, second column) corresponds to the estimated parameter associated to the "winning" indicator in an instrumental regression where the dependent variable is job destruction and the instruments are the judge and the staff densities (first to last row, second column). 0.065 (second row, third column) is the p-value of the Hansen J statistic of this instrumental regression. 7.66 is the F statistic associated to the first stage regression. "H" for the p-value of the Hansen J statistic of the instrumental regression. Robust standard errors are between parentheses. * significant at 10%; ** significant at 5%, ***significant at 1%. Observations are for 95 Départements and for the years 1992-2004 (1,235 obs.) or 1996-2004 (855 obs.) . Each regression includes year and regional business cycle indicators. Départements 1991 total employment is used as weights. Clusters: Département level.
Sources: Prud'hommes data from Ministry of Labor. 1991 employment and Labor flows from Sirene files on establishments. Employment and unemployment rates from the French Labor Force Surveys

Labor flows and employment rates: fixed effects

The addition of labor courts or départements fixed effects should allow us to better account for unobserved local effects that might be correlated with both Prud'hommes characteristics and local job flows without biasing estimated effects. Besides, our fixed effect estimates give us a more coherent picture than our pooled regressions.

Table 2.14
First stage fixed effect at the Prud'hommes level

	Conci	drop	lawyerw
Judges		-46.02**	101.3***
		(19.9)	(24.0)
Staff	-4.301*		
	(2.36)		
Lawyers	3.052**		
	(1.23)		
%union share			
FO		-0.122**	0.127*
		(0.062)	(0.072)
R-squared	0.30	0.08	0.62
Observations	2112	3432	3432

Notes: Robust standard errors are between parentheses. * significant at 10%; ** significant at 5%, ***significant at 1%. Observations are for 264 Prud'hommes and for the years 1990-2004 (3,432 obs.) or 1996-2004 (2,112 obs.) . Each regression includes year Prud'hommes and local business cycle indicators. Prud'hommes jurisdiction 1991 total employment is used as weights. Clusters: Prud'hommes level.
Sources: Prud'hommes data from Ministry of Labor. Sirene files on establishments.

At the Prud'hommes level, the conciliation rate and the drop rate are the case outcomes that can be explained by some of our instruments which is unfortunately not the case for the trial rate (see table 2.14). An increase in the lawyer density and a decrease in staff depress the conciliation rate. The judge density decreases the drop rate but increases the fraction of workers represented by a lawyer. The FO share of judges decreases the drop rate and increases the legal representation. A high conciliation rate, a large fraction of worker lawyers and a small amount of dropped cases reduce job destructions resulting in net job creations as no impact is found on job creations (see Table 2.15).

Table 2.15
Instrumental fixed effect at the Prud'hommes level

EPL indicators:	conci	drop	Lawyer w
Dependent variable: Job Destructions			
EPL	-1.178**	0.410**	-0.226**
	(0.52)	(0.17)	(0.094)
P-value Hansen J statistic	0.48	0.86	0.37
Dependent variable: Job Creations			
EPL	-0.0427	-0.0882	0.0572
	(0.14)	(0.14)	(0.086)
P-value Hansen J statistic	0.34	0.79	0.99
Dependent variable: Job Net Creations			
EPL	1.135*	-0.498**	0.283**
	(0.59)	(0.20)	(0.11)
P-value Hansen J statistic	0.66	0.99	0.41
Instruments	Judge,Lawyer	Judge,FO	Lawyer,FO
Test of excluded instruments F	6.45	5.01	10.61
Observations	2112	3432	3432

Notes: Robust standard errors are between parentheses. * significant at 10%; ** significant at 5%, ***significant at 1%. Observations are for 264 Prud'hommes and for the years 1992-2004 (3,168 obs.) or 1991-2004 (3, 432 obs.). Each regression includes year and local business cycle indicators. Prud'hommes jurisdiction 1991 total employment is used as weights. Clusters: Prud'hommes level.
Sources: Prud'hommes data from Ministry of Labor. Job flows from Sirene files on establishments.

As in the pooled regression case, our set of instruments has a better explanation power at the départements level and we are able to select more than one instrument and run over identification tests that confirm their validity (see Table 2.16).

Table 2.16
First stage fixed effect at the Département level

	null and void	Trial	victory	conci	lawyer w	lawyer f
Lawyer	-2.709**	-6.235**	4.464***	6.226**	7.083***	9.058**
	(1.23)	(3.09)	(1.49)	(2.68)	(1.67)	(4.48)
Staff	1.814**				4.364***	-18.31***
	(0.73)				(1.30)	(3.53)
Judges					279.9***	
					(89.6)	
%union share						
FO						
CFDT						
Others				-0.163***		
				(0.059)		
R-squared	0.18	0.41	0.11	0.45	0.52	0.46

Notes: Robust standard errors are between parentheses. * significant at 10%; ** significant at 5%, ***significant at 1%. Observations are for 95 départements and for the years 1996-2004 (855 obs.) . Each regression includes year and département and local business cycle indicators. Département 1991 total employment is used as weights. Clusters: Département level.
Sources: Prud'hommes data from Ministry of Labor. Sirene files on establishments.

The victory and conciliation rates, the fraction of workers and firms represented by a lawyer cause lower employment fluctuations (see Table 2.17). This goes along with lower female and youth employment rates and an increase in long term unemployment rates. A more pro-business tribunal through a higher "Null and Void" rate would lead to opposite effects.

Table 2.17
Instrumental fixed effect at the Département level

Dependent variable:	Null and Void	H	Victory	H	Conci	H
Job Destructions	2.217* (1.28)	0.877	-0.786* (0.45)	0.261	-0.593** (0.23)	0.174
Job Creations	1.576*** (0.57)	0.295	-0.748** (0.29)	0.303	-0.352*** (0.12)	0.057
Net Job Creations	-0.64 (0.95)	0.463	0.0384 (0.32)	0.261	0.241 (0.22)	0.686
Employment rate	0.862** (0.43)	0.176	0.00364 (0.43)	0.187	-0.111 (0.20)	0.529
Relatige Employment Rates:						
Female/Male	1.811** (0.91)	0.136	-0.0134 (0.60)	0.141	-0.328* (0.17)	0.459
15-34 yrs/35-49 yrs	3.318*** (1.19)	0.165	-0.431 (1.01)	0.165	-0.887*** (0.28)	0.794
50 yrs+/35-49 yrs	-1.182* (0.67)	0.327	0.142 (0.58)	0.236	0.261 (0.24)	0.71
<High School/Some College	0.413 (1.03)	0.213	-0.815 (0.56)	0.25	-0.0862 (0.30)	0.236
Unemployment rates, Part-time and temporary jobs:						
Unemployment rate	-0.602 (0.51)	0.407	0.335 (0.25)	0.496	-0.0166 (0.25)	0.103
Youth Unemployment rate	0.232 (0.29)	0.282	0.062 (0.16)	0.249	-0.178 (0.15)	0.218
% Short Term Unemployment (< 1 year) in Total Unemployment	9.295 (5.89)	0.75	-2.439*** (0.85)	0.456	-5.145* (3.10)	0.361
Temporary jobs	-0.312 (0.25)	0.294	0.027 (0.12)	0.182	-0.116 (0.12)	0.0232
Constrained Part-time	-0.883 (0.88)	0.187	0.935* (0.56)	0.394	-0.054 (0.43)	0.0492
Part-time	-0.268 (0.38)	0.239	0.296* (0.17)	0.424	0.00294 (0.16)	0.193
Instruments	L,S		L,S		L, Others	
Test of excluded instruments F	11.00		9.25		9.49	

Table 2.17(Continued)

Dependent variable:	Lawyerw	H	Lawyerf	H
Job Destructions	-0.498***	0.468	-0.415**	0.289
	(0.15)		(0.17)	
Job Creations	-0.317**	0.136	-0.262*	0.163
	(0.14)		(0.15)	
Net Job Creations	0.181	0.526	0.153	0.719
	(0.16)		(0.14)	
Employment rate	-0.0104	0.374	-0.216***	0.264
	(0.19)		(0.07)	
Relatige Employment Rates:				
Female/Male	0.145	0.0891	-0.450***	0.204
	(0.27)		(0.14)	
15-34 yrs/35-49 yrs	-0.231	0.266	-0.753***	0.565
	(0.36)		(0.18)	
50 yrs+/35-49 yrs	0.00964	0.352	0.270**	0.718
	(0.30)		(0.12)	
<High School/Some College	-0.366	0.502	0.0407	0.14
	(0.24)		(0.25)	
Unemployment rates, Part-time and temporary jobs:				
Unemployment rate	0.094	0.491	0.0912	0.351
	(0.16)		(0.12)	
Youth Unemployment rate	-0.0311	0.562	-0.0689	0.316
	(0.09)		(0.06)	
% Short Term Unemployment (< 1 year) in Total Unemployment	-1.331***	0.427	-2.44	0.714
	(0.40)		(2.21)	
Temporary jobs	0.120*	0.281	0.0724*	0.646
	(0.06)		(0.04)	
Constrained Part-time	0.226	0.417	0.0554	0.124
	(0.27)		(0.21)	
Part-time	0.0488	0.149	0.0147	0.182
	(0.11)		(0.09)	
Instruments	L,J,S		L,S	
Test of excluded instruments F	11.94		18.51	

Reading: 2.217 (second row, second column) corresponds to the estimated parameter associated to the "null and void" indicator in an instrumental regression where the dependent variable is job destruction and the instruments are the lawyer and the staff densities (first to last row, second column). 0.877 (second row, third column entitled "H") is the p-value of the Hansen J statistic of this instrumental regression. 11.00 is the F statistic associated to the first stage regression. Robust standard errors are between parentheses. * significant at 10%; ** significant at 5%, ***significant at 1%. Observations are for 95 Départements and for the years 1996-2004 (855 obs.) . Each regression includes year and département and regional business cycle indicators. Département 1991 total employment is used as weights. Clusters: Département level.

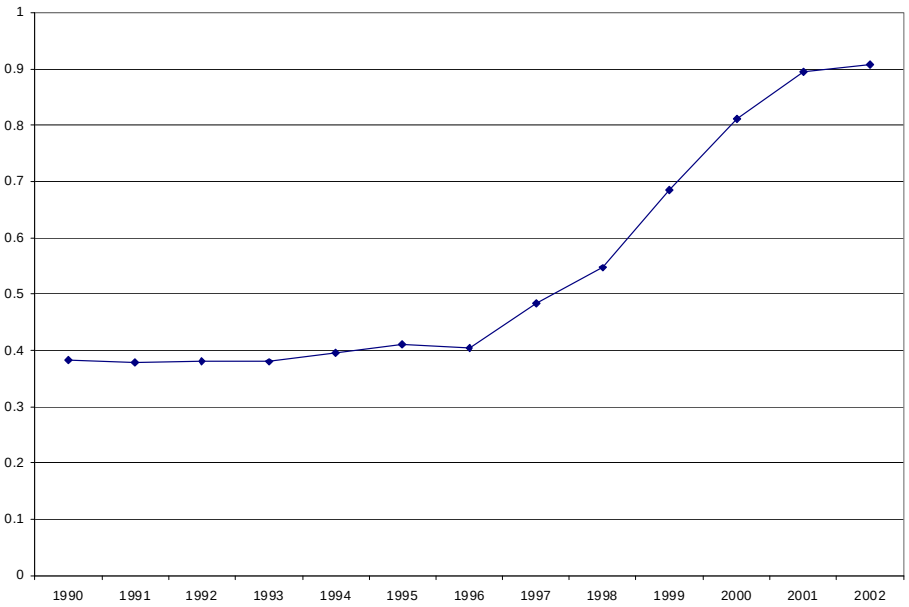
Sources: Prud'hommes data from Ministry of Labor. 1991 employment and labor flows from Sirene files on establishments. Employment and unemployment rates from the French Labor Force Surveys.

Labor flows and employment rates: firm size

We next consider the role of firm size. There are theoretical, institutional and sociological reasons that make such distinctions meaningful.

Boeri and Jimino (2001) in a partial equilibrium model explain why small firms should be subject to less restrictive labor regulations. Small firms differ from large firms by lower monitoring costs that allow them to offer lower efficiency wages. If the firing costs were the same across firms, small firms would tend to choose a level of employment below the optimal level without job provisions. Hence, workers support less regulation in small firms. Bertola (1992) and Boeri and Garibaldi (2007) underline that the more volatile the business of the firm is the more constraining the firing costs act on the dynamics of the labor flows. Hence, small firms should suffer more from high firing costs.

In France, a dismissal deemed unfair by the judge is compensated by a sum which cannot be lower than 6 months pay, for workers employed by a firm with more than 10 employees. Below this threshold, the compensation is left to the discretion of the judges. In addition, when the firing process is deemed unlawful because the advance notice period or the various mandatory meetings were not satisfactorily set up by the employer, the fines are less severe for small firms than for large firms. Sociological studies also show that the body of the judges on the employer side is made of small business owners with a more practical approach of the law enforcement. On the contrary, the body of judges on the employee side mostly comprises union members of large firms with a very formal approach. Looking at the worker's victory rate at trial based on our individual-level dataset, it is higher in small firms (76% against 70%). Despite this high victory rate at trial, workers in small firms are more likely to follow a conciliation procedure and only a small proportion of cases lead to a tie.



Sources: Prud'hommes data from Ministry of Justice.

Figure 2.5
Share of small establishment cases

In addition, despite having lower monitoring costs, small establishments' lack of judicial knowledge and human resources expertise reinforces the binding effect of labor regulations. Indeed, over the period, the share of small establishments within all cases brought to the labor courts has increased from 40% to almost 90% (see figure 2.5). This change can be interpreted as increasing regulations towards small firms. By contrast, it is often interpreted as a successful "escape from labor courts" strategy by large firms which face such stringent regulations and penalties. This strategy appears to be implemented by pre-separation bargaining and large separation costs (see Kramarz and Michaud, 2007).

Coping with unobserved heterogeneity through fixed effect, we find that the Prud'hommes characteristics are found to have an explanatory power mainly on cases of employees of small firms and we hence can not run a comparative analysis taking into account the endogeneity issue. Pooled regression where the drop and the

conciliation rates are instrumented by the judge density and the share of CFDT judges allow us to compare the impact of judicial activity along these two dimensions. We find that an increase in the drop rate causes significantly larger labor fluctuations in larger firms and results in net job destruction only for small firms. An increase in the conciliation rate impacts negatively more labor flows in large firms than in small firms (See Table 2.18).

Table 2.18

Instrumental pooled regressions at the Prud'hommes level by firm size

	Small Firms		Large Firms	
EPL indicators:	drop	conci	drop	conci
Dependent variable: Job Destructions				
EPL	0.740***	-0.182***	1.140***	-0.340***
	(0.12)	(0.04)	(0.30)	(0.08)
Dependent variable: Job Creations				
EPL	0.533***	-0.026	1.225***	-0.304***
	(0.08)	(0.04)	(0.30)	(0.08)
Dependent variable: Job Net Creations				
EPL	-0.207***	0.156***	0.085	0.036
	(0.08)	(0.03)	(0.07)	(0.03)
Instruments	Judge	CFDT	Judge	CFDT
Test of excluded instruments F	27.18	54.2	13.51	41.61
Observations	3432	3432	2989	2989

Notes: Robust standard errors are between parentheses.* significant at 10%; ** significant at 5%, ***significant at 1%. Observations are for 264 Prud'hommes and for the years 1991-2004. Each regression includes year and local business cycle indicators. Small firm have less than 10 employees. Prud'hommes' jurisdiction 1991 total employment is used as weights. Clusters: Prud'hommes level.

Sources: Prud'hommes data from Ministry of Labor. Job flows from Sirene files on establishments.

Filing rate and legal representation

We define the filing rate as the ratio of the number of cases that have been brought to the Prud'hommes over the number of the workers that have been fired over the same period AND enrolled at the local National Employment Agency (ANPE). This variable is a proxy of the p_f of our model since one can sue his employer without being enrolled at the ANPE.

We instrument the filing rate by the lagged average duration of a case. Like our judge density indicator, we can interpret the duration as an indicator of congestion. The time it takes to judge or to conciliate a case is likely to depend on the resources available in each labor court. We assume that this indicator has a more deterrent effect on the worker incentive to file than on the firm incentive to comply and thus is decreasing with the strictness of the labor regulation. Our micro data set on labor court cases provides us with several useful dates: date of filing of the case, date of the first attempt to conciliate the parties, date of the first hearing, and date of termination of the case. We computed for each labor court and each year various averages: total duration, duration before the first attempt to conciliate, duration between this attempt and the start of the trial, and duration between the start and the closing of the trial. All these durations display negative correlation with judges' density. Changes in duration at various stages of the trial are likely to be driven by exogenous factors, such as changes in administrative resources available to the local court, in particular the Tribunal d'Instance. Such changes should be orthogonal to changes in labor flows.

Table 2.19
Instrumental regressions: filing rate

Dependent variable:	Job destructions	Job creations	Net Job creations
Filing rate	-0.464*** (0.16)	-0.205* (0.11)	0.259* (0.16)
Hansen J Statistic	0.37	0.93	0.38
R-squared	0.09	0.40	0.52

Notes: Robust standard errors are between parentheses. * significant at 10%; ** significant at 5%, ***significant at 1%. Observations are for 264 Prud'hommes and for the years 1996-2004 (2,132 obs.). The regression includes year and Prud'hommes and local business cycle indicators. Prud'hommes' jurisdiction 1991 total employment is used as weights. Clusters: Prud'hommes level.
Sources: Prud'hommes data from Ministry of Labor. Job flows from Sirene files on establishments.

The first stage of our instrumental regression show as expected that the filing rate is positively related to the lawyer density and negatively related to a lagged average

duration of the case (*F=12.5*). A larger filing rate lowers job flows volatility resulting in net job creations (tables 2.19 and 2.20). Hansen ‘s test support the statistical validity of our 2 instruments.

Table 2.20
Filing rate: first stage regression

Dependent variable:	Filing rate
BC	-0.305***
	(0.11)
BC(-1)	-0.0827
	(0.086)
Lawyer	5.162***
	(1.07)
Duration(-2)	-0.0260
	(0.017)
R-squared	0.47
F statistic	12.52

Notes: Robust standard errors are between parentheses. * significant at 10%; ** significant at 5%, ***significant at 1%. Observations are for 264 Prud’hommes and for the years 1996-2004 (2,132 obs.). The regression includes year and Prud’hommes and local business cycle indicators. Prud’hommes' jurisdiction 1991 total employment is used as weights. Clusters: Prud’hommes level.
Sources: Prud’hommes data from Ministry of Labor. Job flows from Sirene files on establishments.

4.2. A Regression Discontinuity Approach

4.2.1. Matching process

The first stages of our instrumental pooled regressions show that the judge density can be interpreted as a measure of the strictness of employment protection legislation: a higher judge density raises the rates of trial and worker’s victory. However, as the number of judges does not change over most of the period under review, we are unable to deal with unobserved Prud’hommes heterogeneity using fixed effect regressions. We undertake a regression discontinuity approach in order to deal with the potential endogeneity bias that might arise if the allocation of judges depends on local current economic conditions.

Among the population of the 36,562 cities of metropolitan France, we match each city with its closest and second closest neighbors according to the orthodromic distance. We select the matches where both cities do not belong to the same prud'hommes jurisdictions (3,993 cities). We focus on the period over which there has been absolutely no change in the number of judges (1993-2002). We match our database of selected cities with our Insee siret files that provide labor flows at the city level. About 14% of the selected cities did not experience any labor flows over the period because the (private) total employment was nil. 76% are present over the whole period. Hence our final sample is of 3,109 cities. The selected cities are very close the last centile being of 7,8 km and the average distance being of 3,6 km. In 1999, the median population of the cities is of about 400 inhabitants. Each Prud'hommes is at least represented by one match in our data set, the maximum being for the Prud'hommes of the city of Tours represented in 24 matches.

4.2.2. Estimation and results

We estimate the following equation:

$$Flows_{c,p,t} - Flows_{c',p',t} = \alpha\left(Judges_{p} - Judges_{p'}\right) + \delta_t + \varepsilon_{cc',t} \qquad (2.11)$$

Where c and c' are the matched cities and "judges" is the judge density of the jurisdiction of the Prud'hommes they belong to. δ_t are yearly dummies.

Table 2.21

Regression discontinuity: labor flows and judge density

	Job Destruction	Job Creation	Net Job Creation
Judges	-0.328	-17.03***	-16.70***
	(4.93)	(5.60)	(6.02)
Observations	17873		

Notes: Robust standard errors are between parentheses. * significant at 10%; ** significant at 5%, ***significant at 1%. Observations are for 3109 pair of cities belonging to different Prud'hommes jurisdiction over the 1993-2003 period. Each regression includes year. Clusters: city match.
Sources: Prud'hommes data from Ministry of Labor. Job flows from Sirene files on establishments.

We do not apply any weight and cluster the observation at the level of the match. Table 2.21 shows that the judge density reduces the creation of jobs leading to a net destruction of jobs.

5. Conclusion

The impact of the EPL on labor markets has most often been assessed through cross-country analyses which make it hard to control for all various potential interactions between the labor market institutions. Within country analyses have most often used difference-in-difference estimators and tended to ignore the extent to which EPL was enforced and was acting as a binding constraint for the firm or the worker. Both of these strands do not address the problem of EPL endogeneity and enforcement of the EPL. By contrast, in order to measure EPL in France --a country with a highly regulated labor market—we use the time varying judicial activity of the local courts in charge of ruling the individual labor disputes (Prud'hommes). We find that the disposition of the cases depends on the business cycle which shows that EPL indices capturing the strictness of the EPL but enable to render the degree of enforcement are fragmented. Instrumented by the institutional settings of the Prud'hommes and their legal environment, the case disposition is found to have an impact on local labor markets. Large victory and agreement rates, a small rate of dismissed cases, an intensive use of lawyers cause lower labor flow volatility. Yet impacts on net job creations are not significant. Using labor force surveys we show that a decrease in labor flows volatility goes along with a lower employment rate, lower female and youth employment rates, and increases in the long term unemployment and temporary jobs. The French employment regulation is more binding for large firms than for small firms. The soaring share of small firm cases in the total number of cases over the last decade would support that large firms implemented strategies to escape from labor

courts. Our instruments do not have a strong explanatory power on the disposition of large firm cases. Pooled regressions show however that the conciliation and the drop rate impact relatively more on large firm labor flows.

From a welfare perspective, judicial activity allows to increase job stability and to protect workers from employer abuse and unfair dismissals. The downside is to exclude from the labor markets unskilled and inexperienced workers and let workers employed in less productive jobs. Policy responses to soften the judiciary battle by giving incentives to reach an agreement at a lower cost could both improve the welfare both along the employment right and the economic efficiency dimensions.

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3. Labor disputes and the game of legal representation

Significant amounts of money are spent in legal representation every year. There is no doubt that a lawyer is necessary in many cases: in criminal cases a lawyer is usually appointed by the court when the defendant cannot obtain or pay for an attorney. However, whether or not to pay for legal representation is a matter of cost-benefit analysis and strategic choice for a wide range of legal conflicts. Each party might trade off legal fees against lower expected gains at trial, assuming that legal assistance does not hurt. The return to hiring a lawyer might also be influenced by whether the opposite party hires one. If one party hires a lawyer in an effort to increase the chance of success, and the opposite party does the same, the likelihood of victory might ultimately be the same as it would be if neither party were represented. Using this logic, Ashenfelter and Bloom (1990) were the first to observe that strategic behaviours in choosing legal representation might result in a prisoner's dilemma game. A dominant strategy for both parties is to choose a lawyer to be represented, but in doing so they end up in being worse off that if they were not represented. Taking the example of a union and a firm bargaining on a wage increase, both parties might neutralize the actions of their opponent if they both use a lawyer or if they both do not use a lawyer. On the other hand, if only the worker (firm) uses a lawyer, she manages to achieve an additional wage increase (decrease).

Assuming that this additional increase (decrease) exceeds the lawyer's fees, the following "prisoner's dilmma" payoff matrix arises:

Table 3.1
Game of legal representation

		Defendant uses:	
		A lawyer	No Lawyer
Plaintiff uses:	A lawyer	$\Pi^{p}_{l,l}, \Pi^{d}_{l,l}$	$\Pi^{p}_{l,nl}, \Pi^{d}_{l,nl}$
	No Lawyer	$\Pi^{p}_{nl,l}, \Pi^{d}_{nl,l}$	$\Pi^{p}_{nl,nl}, \Pi^{d}_{nl,nl}$

where $\Pi^{k}_{i,j}$ is the pay-off with *k=p* (plaintiff) or *d* (defendant) and *i(j)* indices the representation of the plaintiff (defendant) with *l* for lawyer and *nl* for no lawyer. The necessary conditions for the prisoner's dilemma would be that $\Pi^{p}_{l,l} \geq \Pi^{p}_{nl,l}, \Pi^{p}_{l,nl} \geq \Pi^{p}_{nl,nl}$ ($\Pi^{d}_{l,l} \geq \Pi^{d}_{l,nl}, \Pi^{d}_{nl,l} \geq \Pi^{d}_{nl,nl}$) for the worker (firm) to choose to be represented and $\Pi^{p}_{l,l} \leq \Pi^{p}_{nl,nl}, \Pi^{d}_{l,l} \leq \Pi^{d}_{nl,nl}$ for the parties' incentives to lead to the low equilibrium. Hereafter, we call (L,L) the case when both parties are represented, (NL,NL) the case when neither party is represented, (L,NL) the case when the worker is represented but the firm is not, and (NL,L) when the worker is not represented but the firm is.

Only a few empirical studies look at the gain from hiring a lawyer, and even fewer consider it as a strategic choice in a two-player game. Using a sample of grievance arbitration awards, Block and Stieber (1987) find that the outcome of the arbitration does not differ when both parties are represented by an attorney versus when none of the parties are represented. The probability of prevailing increases only when one party hires an attorney and the other party does not. Ashenfelter and Bloom (1990) and Wagar (1994) display similar findings. More recently, Halla (2007) using data on divorce cases, finds that hiring a lawyer is beneficial for the wife only if the husband is not represented. Data sets on litigation share the common downside of lacking measures of the intrinsic quality of the case[27], a factor that might affect optimizing

[27] In this paper, a case is considered as of "good quality" from the perspective of the plaintiff.

behaviour leading to the choice of legal representation. The data sets used by these authors also suffer from some other limitations. Except for Halla (2007), they take into account only cases solved through arbitration and not through the court system. They are specific and not representative of the population of cases: Block and Stieber (1987) use a sample of 454 cases rendered in the Michigan and 759 cases published by the Bureau of National Affairs during the years 1979-1981. Ashenfelter and Bloom (1990) exploit a data set containing 217 union-employer cases resolved by final-offer arbitration in New Jersey from 1981 to 1984. Halla (2007), which offers a more comprehensive data set, employs 2,436 divorce cases taken from five district courts in Austria between 1997 and 2003. More importantly, these papers empirically find the necessary conditions for having a prisoner dilemma in term of probability of victory[28]: it is the same when both parties are represented or none of them are represented, and it is higher when one party is represented and the other is not. Nevertheless, as these data sets do not provide any information on legal fees, they do not allow for the computation of the pay-off matrix of the game and the question of whether the game represents a prisoner's dilemma remains.

In this paper, we complement these studies by using two sets of data of unfair dismissals brought to courts in France and the UK. Our French data set is comprised of administrative records of almost 2,000,000 cases that have been brought to labour court from 1990 to 2004. Unfortunately, awards and legal fees are not available, but they allow us to compute the matrix of marginal probabilities of victory for a population of cases. Our British data set is comprised of two successive samples of UK Employment Tribunal cases drawn in 1998 and 2003, containing rich information on the plaintiff and the defendant, including the settlement amount, the award in case

[28]In case of arbitration, the winning side is the one whose proposal is the closest to the proposal of the arbitrator.

of trial, the legal representation and its cost, and in case of a tribunal hearing, the characteristic of the representation of the opposite party.

About 200,000 (100,000) unfair dismissals cases are filed every year in France (Great-Britain). This accounts for 10% of the people claiming unemployment-related benefits in the UK, and it represents about 30% of the yearly number of workers enrolling at the National Placement Agency in France after having been fired. In addition to the award or the settlement amount, legal representation might represent a substantial firing cost for the firm[29]. As noted by Blanchard and Tirole (2004), judges' interventions are necessary to distinguish a redundancy from a misconduct to denounce discrimination or to check if all the legal steps surrounding a redundancy have been followed but labour legislations often make the judge act as a substitute for the judgement of the company's management, which is clearly economically inefficient. The judicial process of a firing decision is offered as an explanation for the poor performance of the French labour market. Hence, any reform pushing toward more conciliation and fewer judicial battles in the firing decision is a matter of importance for the policy maker and the role of legal representation must be under scrutiny. The tools available to the policy maker to reach that goal are numerous: caps on awards, allocations of legal costs to the losing party, mandatory and preliminary use of an arbitrator to make a conciliation step and so on. They would be particularly justified if the plaintiff and the defendant are trapped in a prisoner's dilemma or if legal representation is chosen and turns out to be a sunk cost.

The next section describes our data sets and the English and French institutional settings and provides descriptive statistics. We estimates afterwards the marginal probability of victory and the pay-off matrices for the English data set before testing several potential explanations to justify the form of the pay-off matrix observed in the

[29] For the UK, legal cost represents about 4% of the yearly net pay of the worker.

data: risk-aversion, reputation, representation of opposite party, quality of the case and pre-trial bargaining effects. The last section discusses of the impact of potential selection bias on our results.

2. Data Sets and Descriptive Statistics

2.1. The British case

In Great Britain, the Employment Tribunals (ET hereafter) have been in charge of adjudicating disputes between employers and individual workers since the Redundancy Payment Act of 1965. They acquired jurisdiction over unfair dismissals with the Industrial Relation Act of 1971. The trial is chaired by a professional judge assisted by two lay-members- one with an employer background and the other with a trade union or employee representative background. The lay judges are chosen by the administration from lists of persons proposed mainly by trade unions and employer groups.

Surveys of unfair dismissal have been conducted about every five years since 1975. Until 1998 samples were comprised of on average 650 matched cases where both the employer and applicant were interviewed. Each case can be withdrawn, settled or go to a full hearing. Over the last two waves, about 20% of the cases went to full hearing. Information on whether the opposite party has legal representation is available only for cases that are brought to court. In order to get a sample large enough for a statistically robust analysis, we use the 1998 and 2003 waves of the Survey of Employment Tribunal Applications series. These waves do not represent a sample of matched cases. The 2003 wave is composed from a random sample of 4,517 cases divided into two independent samples of applicants (2,236 cases) and employers (2,281 cases). Each of the 2003 samples were drawn across all jurisdictions from

tribunal cases completed between March 2002 and March 2003. Both samples are representative of cases completed in Great Britain during this period. The 1998 wave is also composed of two independent samples of applicants (1,384 cases) and employers (1,292 cases) representative of cases that have been registered between January 1995 and April 1997. It is worth noting that **in case of a trial**, for each case the characteristic of the representation of both parties is known.

Bearing in mind the drawbacks of any information gathered ex-post and requiring recalls, the information collected from employers and applicants are obviously richer in the British surveys than the one administratively collected in France. Table 3.2 lists the variables that we use in our multivariate analysis: characteristics of the employee -before and after the judicial process-, characteristics of the firm, the representative, the settlement offers, the costs of litigation, the amount awarded are provided at a detailed level. Reasons for decision made along the process such as reasons for not being represented, for withdrawing or for rejecting settlement are given. Information is also given on the way the dismissal was handled —with or without a formal meeting or a written notification, or on the presence of a human resource department or unions at the workplace- which could help us to understand the bargaining process between employer and employee. Ex-post subjective expectation over the outcome of the case that can be used as a proxy for the quality of the case perceived by the party but is collected for only one of the party involved. As the cases are not matched, some of the information gathered on the employers and the employees is richer and more précised in their respective surveys. However, we give priority to the size of our samples and restrict ourselves to the variables present simultaneously in the 1998 and 2003 waves and in the employee's and in the employer's surveys.

Table 3.2
Variables description: British data

Variable	*Description*
Costrule	Dummy equal 1 if case of 2003 wave
Economic Activity	
VAT	Regional VAT deregistration rate
UE	Regional Unemployment
Case Characteristics	
settle	Case outcome (dummy equal 1 if case settled)
withdw	Case outcome (dummy equal 1 if case withdrawn)
dismets	Case outcome (dummy equal 1 if case dismissed)
trial	Case outcome (dummy equal 1 if case reach full hearing)
appwin	Case outcome (dummy equal 1 if applicant win at trial)
chanceplus	Perceived likelihood of success (dummy equal to 1 if likely to win)
chanceeven	Perceived likelihood of success (dummy equal to 1 if even chance)
chanceless	Perceived likelihood of success (dummy equal to 1 if likely to lose)
unfair	Main jurisdiction (dummy equal 1 if unfair dismissal)
breach	Main jurisdiction (dummy equal 1 if breach of contract)
wages	Main jurisdiction (dummy equal 1 if wage contract)
discri	Main jurisdiction (dummy equal 1 if any discrimination)
redund	Main jurisdiction (dummy equal 1 if redundancy payment)
writproc	Written Procedure (dummy, equal 1 if applicant issued with written statement stating terms and conditions of employment)
warningdes	Warning before dismissal (dummy equal 1 if the employer warned the applicant before dismissal)
discus	Discussion before filing (dummy equal 1 if the issue was discussed by employer with applicant before application
Applicant Characteristics	
age	Age
female	Female
ann_pay	Annual Pay (base year 1997)
bpay1	Annual Pay (dummy, equal 1 if less than 10,000 pounds)
bpay2	Annual Pay (dummy, equal 1 if between 10,000 and 15,000 pounds)
bpay3	Annual Pay (dummy, equal 1 if between 15,000 and 20,000 pounds)
bpay4	Annual Pay (dummy, equal 1 if more than 20,000 pounds)
tenure	Tenure in years
btenure1	Tenure (dummy, equal 1 if less than 1 year)
btenure2	Tenure (dummy, equal 1 if between 1 and 3 years)
btenure 3	Tenure (dummy, equal 1 if between 3 and 7 years)
btenure4	Tenure (dummy, equal 1 if more than 7 years)
Applicant Characteristics	
managerprof	Occupation (dummy, equal 1 if Managerial/Professional occupation)
lowskill	Occupation (dummy, equal 1 if Elementary Occupation or Process, Plant, and Machine Operatives occupation)
partime	Employment Status (dummy, equal 1 if employed part time)
union	Union (dummy, equal 1 if union present at the workplace)
unionmemb	Union Member (dummy, equal 1 if applicant union member)
currempl	Current Employment Status (dummy, equal 1 if currently employed)
moremoneynewjob	Current Employment Status (dummy, equal 1 if applicant earns more money in her new job)
samemoneynewjob	Current Employment Status (dummy, equal 1 if applicant earns same amount of money in her new job)

Table 3.2 (Continued)

Applicant Characteristics	
lessmoneynewjob	Current Employment Status (dummy, equal 1 if applicant earns less money in her new job)
Firm Characteristics	
asizew1	Workplace size (dummy, equal 1 if less than 25)
asizew2	Workplace size (dummy, equal 1 if bewteen 25 and 49)
asizew3	Workplace size (dummy, equal 1 if bewteen 50 and 250)
asizew4	Workplace size (dummy, equal 1 if more than 250)
public	Public/Private/Non Profit sector statys (dummy, equal 1 if public sector)
private	Public/Private/Non Profit sector statys (dummy, equal 1 if private sector)
nonprofit	Public/Private/Non Profit sector statys (dummy, equal 1 if non profit sector)
sicgp1	Industry (dummy equal 1 if agriculture and fishing)
sicgp2	Industry (dummy equal 1 if mining and utilities)
sicgp3	Industry (dummy equal 1 if manufacturing)
sicgp4	Industry (dummy equal 1 if construction)
sicgp5	Industry (dummy equal 1 if whole and retail)
sicgp6	Industry (dummy equal 1 if hotels and Rest.)
sicgp7	Industry (dummy equal 1 if Transports, Comm. And Utils)
sicgp8	Industry (dummy equal 1 if finance)
sicgp9	Industry (dummy equal 1 if other services and public administration)
ea	Firm is member of employers association (dummy equal 1 if member)
nbcases0	Previous Experience with ET (dummy equal 1 if no experience)
nbcases1	Previous Experience with ET (dummy equal 1 if at least one case)
Representation,Cost and Award:	
lawhear	Representation at hearing (dummy equal 1 if lawyer, sollicitor or barrister represented applicant)
emplawhear	Representation at hearing (dummy equal 1 if outside lawyer, sollicitor or barrister represented employer)
lwlf	Dummy equal 1 if lawyer and firm both represented by a lawyer
lwnlf	Dummy equal 1 if the worker is represented by a lawyer but the firm is not
nlwlf	Dummy equal 1 if the worker is not represented by a lawyer but the firm is
Nlwnlf	Dummy equal 1 if neither the worker nor the firm are represented
settlemoney	Monetary Settlement (if any)
award	Award at Trial if any
legalfee	Legal fees personally paid (if any)

Workers and firms choose not being represented in a large fraction of cases. Twenty five percent of firms take a lawyer against eighteen percent of the workers. As shown in Table 3.3 a majority of cases involves no lawyer at all (55%). Firms and workers can obtain legal help through other means than the hiring of a lawyer. A union member or a workmate or an administrative officer can help the worker in dealing with her case. Similarly a firm can find guidance through an employer's association or a in-house lawyer. We consider that the game of legal representation

consists in choosing to pay or not for legal expertise and exclude these other sources of legal help from our analysis. Of course, one can claim that a fraction of the cost of a union's membership or a federation's membership or part of the pay of an in-house lawyer correspond to the potential use of legal expertise when an unfair dismissal is brought to trial but our data do not allow us to evaluate the cost of this service. The proportion of workers represented by a union member is of seven percent. The fraction of employer represented by an employer's association is even smaller (5%).

Table 3.3
Legal Representation at Trial

	British data set		*French data set*	
Representation	Worker	Firm	Worker	Firm
None	0.55	0.32	0.13	0.17
Lawyer	0.18	0.25	0.62	0.72
Union/Employers' association	0.07	0.05	0.23	0.04
Others	0.20	0.39	0.02	0.07
Observations	826	698	1135852	1125551

Notes: Frequency counts of workers and firms by types of legal representation. "Others" might include family/friends, workmates, civil servants, human resources specialist, etc…
Source: SETA surveys of 1998 and 2003 and Prud'hommes data from French Ministry of Justice.

The costs of litigation are reported for the respondent of the questionnaire in the British data. Legal fees are the "total costs personally paid" by the worker or "paid by the organization" net from the part potentially covered by a trade union a legal insurance or legal aid or any fees paid by a third party. Assuming the risk-neutrality of both parties, for each party and each case ((L,L),(L,NL),(NL,L),(NL,NL)) we write the pay-off as: $\Pi_i = pJ_i - C_i$ where p is the probability of worker's victory, J_i the award and C_i the legal cost, i=w(worker) or f(firm). We consider the "American" rule of allocation of legal costs. Apart from litigation cost, the worker stands to gain what the firm loses and J_w=- J_f. We display in table 3.4 the ex-post gains observed in the raw data for the firms and the workers. Firms and workers are better off not being represented and a Nash equilibrium will be the (NL,NL) case. Firms decrease

substantially the worker's gain by hiring a lawyer but this decrease is smaller than the additional legal costs the firm incurs.

Table 3.4
Pay-off matrix (British data)

		Defendant uses:	
		A lawyer	No Lawyer
Plaintiff uses:	A lawyer	1193,-6033	1604,-4948
	No Lawyer	1254,-4621	1456,-1977

Notes: The mean of the award is computed on the samples of workers and firms, e.g. 1249 observations. The mean of the worker's legal cost is computed on the samples of workers, e.g. 648 observations. The mean of the firm's legal cost is computed on the samples of firms, e.g. 554 observations.
Source: SETA surveys of 1998 and 2003. Observations: 1254. Standard deviations in brackets.

The prisoner's dilemma potentially arising from the computation of the payoff matrix might be distorted under some cases. Contingent-fee arrangements might exist between the parties and their lawyers. These arrangements stipulate that in case of victory the lawyer will earn a predetermined percentage of the award and in case of a defeat will earn nothing more than a forfeit which can be nil. Hence a "no win, no fee" arrangement destroys the possibility of a prisoner dilemma since taking a lawyer is always a dominant strategy. These types of contracts for unfair dismissals are still rare. Only three firms having reached the trial stage reported this kind of arrangement in the 1998 wave, the question has not been asked to the firms in the 2003 surveys. Twenty three workers in 1998 and 56 workers in 2003 acknowledge having used this "contingent-fee" arrangement, that is, seven and twenty percent respectively of the workers that have been represented by a lawyer at trial. We discard these cases from our analysis as their incentive structure differs from our problem statement[30].

In Great-Britain[31], a tribunal may make pay the legal expenses of the winning side to the losing party -without an assessment of costs- if it finds that the case or defence

[30] According to SETA 2003' data 50% of these contingent-fee cases imply that the worker has to pay something in case of a defeat.
[31] Similar rule exists in France but an assessment of the costs is made by the judge.

was “misconceived, vexatious, and/or had no reasonable chance of success”. The prisoner’ dilemma will be less binding for a worker that thinks to have such a high quality case that she does not care on litigation costs since she is sure of getting her money back. In the same time, if the case is of a very high quality, it should not be difficult to the party to convince the opposite side that a settlement is preferable and these cases should not end up within the pool of adjudicated cases. Thirteen percent of workers and eleven percent of firms reaching the trial stage asked their costs to be awarded and six and three percent respectively have been reimbursed from their legal expenses. We conducted our analysis with or without these cases and do not find significant differences.

Turning to the relationship between the representation and the outcome of the trial, sample t-tests on English data show that taking a lawyer correspond to a significant higher success probability for the firm whether or not the worker is represented. In contrast with the studies mentioned above, we do find a significant difference in outcomes between the cases when both parties are represented and the cases when none of the parties are represented: the worker’s victory rate is higher when none of the parties are represented than when both parties have hired a lawyer.

2.2. The French case

The French labour justice is mainly dispensed by the "Prud’hommes" which is the relevant jurisdiction to every labour dispute arising at the individual level in France. The judges in the Prud’hommes are not professional judges and can be seen as performing a public duty. Each labour court comprises judges representing employers and judges representing employees in equal number. These judges are elected by employees, business owners and managers every five years within lists established by unions and federations. If an equal number of judges is pro worker and against her,

there is a tie ("solution de départage"). In that case, a single professional judge decides the outcome of the trial (less of 10% of the cases).

Our data come from administrative records made at the level of each Prud'homme and collected by the statistical department of the French Ministry of Justice. Their primary goal is to monitor the labour courts' activities with an emphasis on speed of treatment. The data source is exhaustive for the period 1990 to 2004. It includes approximately 2 millions of individual cases among which little more than 1 million have been brought to trial. Whatever is the outcome of the case, the characteristics of the representation of both parties are filled in. However, we restrict ourselves to the case having reached trial to draw a comparison with the British data set. The French data include a rough indicator of firm size (less or more than 10 employees), the industry of the firm, the age and sex of the plaintiff, the jurisdiction of the case, the eligibility for judicial assistance benefits, the right to appeal the decision of the court (that is the award at stake is larger than a given threshold: about 5,000 in 2006).

In contrast to the UK, firms and workers are often represented by a lawyer in France (respectively (72% and 62% of the cases). As a consequence, a large fraction of French cases leads to the confrontation of two lawyers (46%). The more regulated French labour market might increase the complexity of the labour laws and hence makes more necessary the use of legal expertise. As underlined by Blanchard and Philippon (2004) or Algan and Cahuc (2007), due to the history of political and social movement, French industrial relations can be less smooth than their English counterparts. As in the UK, firms and workers can obtain legal help through other means than the hiring of a lawyer. The proportion of workers represented by a union member is much higher (23%) but the fraction of employer represented by an employer's association is similar (4%).

3. Pay-off Matrix of the Game

3.1. Legal representation and probability of worker's victory

The choice of hiring a lawyer for being represented is likely to depend on the quality of the case as perceived by both parties. Theoretical models of litigation stress differences in expectations (see Priest and Klein (1984)) or informational asymmetry (see Bebchuk (1984)) regarding this quality and draw predictions on win, trial, or settlement rates. In these models, litigation costs have no other influence on the judicial process than to give the parties an incentive to settle or to litigate. At the same time, the legal expenses do not impact the probability of winning or the size of the award and only correspond to entry costs of the litigation process. However, Cooter and Rubinfeld (1989) and Spier and Hay (1998) underline that the plaintiff's litigation costs are endogenous rather exogenous: *"the plaintiff's investment choice will reflect both the underlying facts of the case and the beliefs that the plaintiff holds about the future of the case – including those concerning the investments and responses of the defendant"*. Hirshleifer and Osborne (2002) (H&S hereafter) put together the quality of the case -considered as common knowledge- and the parties' litigation costs as inputs of a litigation success function over which plaintiff and defendant optimize. Assuming risk-neutral parties, a Nash protocol will imply that plaintiff and defendant undertake the same level of legal expenses. This level is a quadratic function of the case quality reaching its peak midway. Considering a Stackelberg game with the plaintiff as the leader, they show that the side with the better case fights harder and for a high quality case the defendant will concede. Hence theoretical models show that litigation costs and quality of the cases are likely to be intermingled.

Unfortunately, except in the noticeable case of studies using medical malpractices in Florida in the early 80s (see Farber and White, 1990), the empirical literature on

legal process is plagued by the absence of direct measures of the quality of the cases. Our analysis is limited to individual labour disputes and thus guarantees some uniformity over the cases. Given the richness of our database, we are able to include numerous controls that are likely to be related to the quality of the cases. The presence of a union at the workplace and a firm large enough to possess a personnel department both making easier the access to legal expertise and knowledge in dealing with unfair dismissal cases are likely to filter out low quality cases. Skill and pay and industry might be also related to the ability to gauge the quality of one's case. They are also related to the amount awarded that is taken into account by the parties when deciding to invest in legal representation.

We ran probit regressions where the dependent variable is the probability of worker's victory at trial. Our results are consistent with our observations on raw data. Regarding the French data, restriction tests show that the probability of victory meets some necessary conditions for the pay-off matrix to be prisoner's dilemma alike. Hiring a lawyer increases the probability of victory whatever is the legal representation of the opposite party (see table 3.5). The worker's victory rate is increased by .04 against represented firms (-.04-(-.08) = .04) and by .02 (.02-0) against unrepresented firms. The firm's victory rate is increased by .08 against unrepresented workers and by .06 against unrepresented workers. However, contrary to what have been displayed in the (small) empirical literature, the (L,L) and (NL,NL) outcomes are clearly not equivalent: on one hand the worker is worse off in the (L,L) case which is consistent with a prisoner dilemma but on the other hand a higher probability of victory for the firm can make its investment worthwhile. British data show that when the firm hires a lawyer, its probability of victory increases substantially whatever the representation of the worker is. No significant difference is found for the worker. Once again the (L,L) cases display significant lower probabilities of worker's victory than

the (NL,NL) cases and an assessment of the related cost is necessary to conclude to a prisoner's dilemma where (L,L) should be a lower equilibrium outcome than (NL,NL).

Table 3.5
Marginal Probabilities from Probit Regressions on the probability of worker's victory at trial

	British data set	*French data set*
Variable	*Marginal probability**	*Marginal probability* **
Lwlf	-.17 (.04)	-.04 (.006)
Lwnlf	.017 (.03)	.02 (.006)
Nlwlf	-.24 (.03)	-.08 (.005)

Notes: *The marginal probability is computed from a probit regression of the probability of worker's victory on legal representation characteristics and controls *X*. Reference is both parties not being represented ("nlwnlf"). At nlwnlf=1, the sample means of predicted probabilities is .63. For example, it is reduced by .17 when the sample means of predicted probabilities is computed at lwlf=1. *X* include: 2003 year dummy, jurisdictions, union presence at the workplace, local unemployment rate, gender, skills, pay, tenure,age, firm size,sector, industry,region dummies. Source: SETA surveys of 1998 and 2003. Observations: 1,363. SETA samples weights are used.
** The marginal probability is computed from a probit regression of the probability of worker's victory on legal representation characteristics and controls *X*. At nlwnlf=1, the sample means of predicted probabilities is .78. *X* include: year dummies, jurisdictions, local unemployment rate, gender, age, firm size,sector , industry,region dummies.
Sources: Prud'hommes data from French Ministry of Justice. Observations: 1,164,950. Robust standard errors, clustered at the Prud'hommes, between parentheses. *** p<0.01, ** p<0.05, * p<0.1

3.2. Legal Representation and Net Gain

Administrative French data do not give any information on costs or awards. Serverin (2000) based on a survey of 7,962 cases collected in 1996 among 248 of the 264 French labour courts estimates to 78, 000 Francs e.g. approximately an annual pay of gross minimum wage, the average award asked by the worker. Using this amount and the marginal probabilities displayed in table 3.5, we compute the payoff matrix. We obtain the threshold of litigation cost above which the pay-off matrix represents a prisoner's dilemma. The worker (firm) must pay less than 320 Euros (2,900 Euros) of lawyer's fees to choose to be represented, whatever is the other party's choice[32]. These

[32] These thresholds might be actually lower since the award asked by the worker is likely to be an upper bound for the award actually received. One can notice than the forfeit usually paid by the worker in his

legal costs are below to what has been reported to us for unfair dismissal cases which are according to French lawyers we surveyed typically of a forfeit of 1,000 Euros for worker plus 18% of the potential outcome and a forfeit of about 8,000 euros for employers. As mentioned above -without any assessment of costs- workers are better off when no lawyers are involved rather than when both parties are represented since in the former case their probability of victory is higher. Providing that its legal costs are larger than 955 Euros, the firm is in the same position. Hence the (NL,NL) case is likely to be preferred to the (L,L) case and there is no evidence of an incentive structure leading to a (L,L) equilibrium. (see table 3.6))

Table 3.6

Estimates of the matrix of pay-off for French data using anecdotic evidence on litigation costs

		Firm uses:	
		A lawyer	No Lawyer
Worker uses:	A lawyer	6980,-17731	9297,-12556
	No Lawyer	8476,-16475	12243,-12242

Notes: Expected gains are computed as $\Pi_i = pJ_i - C_i$ where p is the predicted probability computed from a probit regression ran on Prud'hommes data from French Ministry of Justice. Controls include: year dummies, jurisdictions, local unemployment rate, gender, age, firm size, sector, industry, region dummies. J = one year of gross minimum wage=15 696 euros. C=8 000 euros cost of hiring a lawyer for the firm. C= 1 000 + .18% J euros cost of hiring a lawyer for the worker. J negative when firms' expected gains are considered.

Using the legal costs commonly reported for unfair dismissals mentioned above, the ranking of the different kind of representations are the same for the worker and the firm: (NL,NL)>(L,NL) >(NL,L)>(L,L). Hence both parties have the dominant strategy of not hiring a lawyer.

fee-contingent agreement is even larger than the threshold. Lawyer's hourly fees are typically around 225 Euros.

The English data set allows us to take into account directly the cost of representation. We start by estimating OLS models regressing the net gain of the trial on the legal representation and additional controls.

Table 3.7
Net Gain and Legal Representation: OLS estimates

Sample	*Workers*	*Firms*
Dependant variable	*Net Gain**	*Net Gain*
lwlf	-1054	-3140***
	(1089)	(640)
lwnlf	826.7	-1571
	(836)	(951)
nlwlf	-827.4	-2827***
	(510)	(775)
Observations	648	557
R-squared	0.10	0.20

Notes: *Net gain is defined as Award-Cost for the worker and –Award-Cost for the firms.
Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1. Additional controls : 2003 year dummy, jurisdictions, union presence at the workplace, local unemployment rate, gender, skills, pay, tenure,age, firm size,sector, industry,region dummies. Clustering at the official region level.
Source: SETA surveys of 1998 and 2003. SETA samples weights are used.

As the lawyer's fees are known for the respondent of the questionnaire, we estimate separate regressions for the firms' sample (Net gain =-Award-Legal fees) and the workers' sample (Net gain=Award-Legal fees). The results are (partially) reported in table 3.7. The parameters associated with legal representation do not differ significantly from zero in the workers' regression. Hiring a lawyer (the "lwlf" and "nlwlf" variables) corresponds to smaller net gains for the firms. *F* tests show that these gains are significantly smaller only when the worker is not represented (see table 3.8).

Table 3.8
F Tests from OLS Regressions on the net gains

Test	*P-value**
Worker's strategy	
lwlf=nlwlf	.82
lwnlf=nlwnlf	.35
Firm's strategy	
lwlf=lwnlf	.25
nlwlf=nlwnlf	0.005

Notes: *P-value from F tests of equality of parameters from a regression of the net gain on legal representation characteristics (reference=nlwnlf) and controls *X*. *X* include: 2003 year dummy, jurisdictions, union presence at the workplace, local unemployment rate, gender, skills, pay, tenure,age, firm size,sector, industry,region dummies. Observations: 648 for the workers' regression. 557 for the firms' regression. SETA samples weights are used.
Source: SETA surveys of 1998 and 2003.

One third of our observations contain no award and no legal expense and one half of trials lead to no award at all. In order to take into account the ***mass*** point at ***zero of the award distribution***, we could estimate a Tobit model. However, one can suspect that legal representation has a differentiated impact over the probability of prevailing and the amount awarded. For example, in case of an unfair dismissal[33], in addition to a potential compensatory award a basic award calculated on the basis of the number of weeks of tenure and the weekly salary of the lost job is awarded to the applicant in case of success. The decision of the judge to award or not should not be based on these characteristics but on the intrinsic quality of the case. Hence we model the amount awarded using a double-hurdle model that offers more flexibility than a Tobit type I model:

$$\begin{cases} P(win = 0 \,|\, X) = 1 - \Phi(X\gamma) \\ f(\log(award) | X, award > 1) = \Phi(X\beta / \sigma)^{-1} \{\phi[(\log(award) - X\beta)/\sigma]/\sigma\} \end{cases} \quad (3.1)$$

We have:

[33] In the SETA classification, other individual labour disputes are: redundancy payment, discrimination, breach of contract, wage contract.

$$E\left(\log(award)|X\right) = \Phi(X\gamma)\left[X\beta + \sigma\phi(-X\beta/\sigma)/\Phi(X\beta/\sigma)\right] \quad (3.2)$$

We do not need exclusion restrictions since residuals are assumed to be normal and independent between both equations. The double-hurdle is equivalent to run separately a probit and a truncated normal regression (McDowell, 2003). The Tobit model is nested in the model ($\gamma = \beta/\sigma$ (Cragg, 1971)).

Table 3.9 shows that the legal representation has a differentiated impact on the probability of worker's victory and on the level of award which justified the use of a double-hurdle model. For instance, (L,L) cases are both related to a larger probability for the firm to prevail and a larger award for the worker in case of victory. The truncated regression shows that a lawyer is positively associated to the award. A likelihood ratio test confirms that the double-hurdles model beats the Tobit model in term of goodness-of-fit.

Table 3.9
Award and Legal Representation: Double-hurdles estimates

Dependant variable	*Appwin*	*Award (log)*
Lwlf	-.53***	.62***
	(.1)	(.16)
Lwnlf	.014	.57***
	(.14)	(.11)
Nlwlf	-.66***	.43***
	(.08)	(.15
Observations	1249	658
Pseudo R-squared	0.18	

Notes: Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1. Additional controls : 2003 year dummy, jurisdictions, union presence at the workplace, local unemployment rate, gender, skills, pay, tenure,age, firm size,sector, industry,region dummies. Clustering at the official region level. SETA samples weights are used.
Source : SETA surveys of 1998 and 2003.

We use the estimates of the double-hurdle run on awards and costs separately to compute the average pay-off for the firm and the worker. For illustration, the worker's pay-off in the case (L,L) is computed as followed :

$$\hat{E}\left(\log(award)\middle|lwlf = 1, lwnlf = 0, nlwlf = 0, X\right) \tag{3.3}$$

where $\hat{E}$ is the sample mean. We estimate the standard-errors by the delta-method. The results are displayed in table 3.10.

Table 3.10
Estimate of the matrix of pay-off (Award)

		Firm uses:	
		A lawyer	No Lawyer
Worker uses:	A lawyer	3.1 (.3)	4.5 (.4)
	No Lawyer	2.7 (.2)	4.1 (.1)

Notes: Mean sample of predicted values are computed in each representation case ((L,L), (L,NL), (NL,L),(NL,NL)). Standard deviations in parentheses are computed by delta-method. SETA samples weights are used. SETA samples weights are used. 1249 observations.
Source: SETA surveys of 1998 and 2003.

Firms hiring a lawyer seem to secure lower workers' awards. In contrast, workers hiring a lawyer do not experience significantly higher awards. The expected gain at trial can be plausibly related not only to the legal representation but also by how much money is invested in this representation. Litigation costs are only known for the respondent of the questionnaire, we run our regressions using successively the workers' and the firms' survey. Legal representation is captured by the combination of the dummies *lwlf*, *lwnlf* and *nlwlf* to which we add the legal expense (in log) of the respondent. The amount of legal costs is significant only in the firms' truncated regression where it is positively associated to the award.

Concerning the worker's victory in the firm regression, the (NL,NL) and (L,L) cases are not statistically different (see table 3.11). As for the worker regression, the presence of a worker lawyer is positively associated with a large award in case of victory (see table 3.12).

Table 3.11

Award and Legal Representation: Double-hurdles estimates including legal costs as regressors: firms' sample

Dependant variable	*Worker's victory*	*Award (in log)*
Lwlf	-0.471	0.113
	(0.29)	(0.42)
Lwnlf	0.382**	0.283
	(0.15)	(0.22)
Nlwlf	-0.564***	0.460*
	(0.16)	(0.28)
expense (log)	0.00643	0.0780***
	(0.024)	(0.024)
Observations	554	223

Notes: "expense" are the firm's legal expense. Additional controls: 2003 year dummy, jurisdictions, union presence at the workplace, local unemployment rate, gender, skills, pay, tenure,age, firm size,sector, industry,region dummies. Clustering at the official region level. Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1. SETA samples weights are used.
Source: SETA surveys of 1998 and 2003.

Table 3.12

Award and Legal Representation: Double-hurdles estimates including legal costs as regressors: workers' samples

Dependant variable	*Worker's victory*	*Award (in log)*
lwlf	-0.585***	0.586***
	(0.19)	(0.19)
lwnlf	-0.336	0.804***
	(0.27)	(0.26)
nlwlf	-0.833***	0.201
	(0.13)	(0.24)
expense (log)	0.0310	0.0244
	(0.021)	(0.023)
Observations	648	421

Notes: "expense" are the workers legal expense. Additional controls: 2003 year dummy, jurisdictions, union presence at the workplace, local unemployment rate, gender, skills, pay, tenure,age, firm size,sector, industry,region dummies. Clustering at the official region level. Source: SETA surveys of 1998 and 2003. Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1. SETA samples weights are used.
Source: SETA surveys of 1998 and 2003.

We use the estimates displayed in table 3.11 and table 3.12 to compute the pay-off matrix where the level of litigation cost is assumed to influence the outcome of the trial. For illustration, for the worker in the (L,L) case we write the pay-off as follows :

$$\hat{E}\left(\log(award)\middle|lwlf=1, lwnlf=0, nlwlf=0, \text{cost}, X\right)-\overline{\text{cost}} \qquad (3.4)$$

and for the firm:

$$-\hat{E}\left(\log(award)\middle|lwlf=1,lwnlf=0,nlwlf=0,\text{cost},X\right)-\overline{\text{cost}} \quad (3.5)$$

The standard-errors are obtained through the delta-method (see table 3.13). The worker is better-off hiring a lawyer when the firm is represented. The firm is better-off hiring a lawyer whatever is the decision of the worker. The firm would prefer the (L,L) case rather than the (NL,NL) case but this is the opposite for the worker so we do not have a prisoner dilemma stricto sensu.

We consider the specification of table 3.13 as our baseline and describe some robustness checks which results are compared below.

Table 3.13

Estimate of the matrix of pay-off including level of costs in the regressors

		Firm uses:	
		A lawyer	No Lawyer
Worker uses:	A lawyer	2.72(.4),-5.24 (.53)	3.48(.63),-7.52 (.42)
	No Lawyer	1.91(.22),-5.12 (.23)	3.72(.14),-6.36 (.22)

Notes: Award is estimated through double-hurdles including legal costs as explanatory variables. Mean sample of predicted values are computed in each representation case ((L,L), (L,NL), (NL,L),(NL,NL)). Standard deviations are computed by delta-method. Source: SETA surveys of 1998 and 2003. SETA samples weights are used. Obs: 675 (Legal cost and award for worker) 574 (Legal cost and award for firm). (Standard-deviation in the parentheses).
Source: SETA surveys of 1998 and 2003.

First we discard insignificant variables and adopt a more parsimonious approach. Using the firm survey, an interesting feature is that once the legal representation is included the worker's probability of winning is primarily associated with the jurisdictions and the region of the case. Using the worker survey, in addition to region and jurisdictions, the firm size and the union density and the working time play a role. In both samples, the amount of the award is related to applicant's characteristics such as tenure, pay, gender and skill.

Second, previous results consider only firms opting for an outside lawyer as we assume that the service provided by an inside lawyer goes beyond to work on a single Employment Tribunal case. Nevertheless, our results could be driven by the presence

of in-house lawyers performing particularly badly. SETA 2003 shows that 25% of the legal specialists representing the firms are in-house lawyers. We restrict our analysis to small firms where the presence of a company lawyer is less likely.

Third, as award and expense show a high level of variability and that our sample size is relatively small our results could be driven by outliers. Thus we discard observations for which award and expense are in the upper decile of positive values.

Forth, we try to augment the homogeneity of our data set by only considering cases that have been brought under the "unfair dismissal" jurisdiction discarding the "discrimination", "redundancy payment", "breach of contract" and "wage" cases and allowing the observables to control more for the quality of the case.

Finally, we distinguish the 1998 and the 2003 waves as a compositional effect that could be related to a change in regulation or legal environment or inflation in legal fees that might change the pay-off in being represented or develop alternative source of representations.

We compare the pay-off matrix obtains from these specifications to our baseline bearing in mind that some of them leads to a significant drop in the sample size (see table 3.14). The preferences of the firms displayed by our baseline hold for all of our specifications except for two cases: when we restrict the sample to unfair dismissal cases where the firm is better off to be represented only when the worker is represented and when we consider only small firms for which "low equilibrium" (L,L) and "high equilibrium" (NL,NL) are found to be equivalent. The findings from the worker sample do not change except when considering separately the two waves.

To sum up, after taking into account legal costs our data are not completely consistent with the prisoner's dilemma suggested by Ashenfelter and Bloom (1990) due to the ranking of the (L,L) and (NL,NL) outcome by the firm. The necessary conditions regarding the probability of victory are met as in previous studies in our

both data sets (French and British): hiring a lawyer is associated with a larger probability of victory for the party, regardless of the decision of the opposite party.

Table 3.14
Estimate of the matrix of pay-off including level of costs in the regressors: robustness checks

Preference: Specification:	(L,L) > (L,NL)	(NL,L) > (NL,NL)	(L,L) > (NL,NL)	Obs.
	Firms:			
baseline	Yes	Yes	Yes	554/223
Parsimonious	Yes	Yes	Yes	554/223
Small firms only	Yes	Yes	No diff.	309/130
Outliers	Yes	Yes	Yes	435/164
Unfair dismissal cases only	Yes	No diff.	No diff.	287/107
1998 wave	Yes	Yes	Yes	237/88
2003 wave	Yes	Yes	Yes	317/135
	Workers:			
baseline	Yes	No diff	No.	648/421
Parsimonious	Yes	No diff	No.	648/421
Small firms only	Yes	No diff	No.	398/304
Outliers	Yes	No diff	No.	560/345
Unfair dismissal cases only	Yes	No diff	No.	230/110
1998 wave	Yes	No diff	No diff	282/187
2003 wave	No diff	No diff	No.	366/234

Notes: We compute the estimate of the pay-off matrix for each sub-samples of firms and workers and compute the t-statistics corresponding to the comparison of pay-off. A difference is considered significant if p>.10.
Source: SETA surveys of 1998 and 2003. SETA samples weights are used. Observations: X/Y means X observations are used in the probit regression and Y in the truncated regression.

Putting legal costs in the picture and focusing on British data, the gain in taking a lawyer for a worker is substantial only when the firm is represented. The firm

decreases substantially the worker's probability of victory by hiring a lawyer making the choice of a lawyer a dominant strategy. From the worker's point of view "both parties taking a lawyer" is clearly Pareto-dominated by the outcome "none of the party represented" both in terms of probability of winning and expected gains. However, a firm is better-off facing a worker represented and hiring a lawyer rather than facing a worker not represented without the help of a lawyer. Put another way, the incentive structure does not put the firm in a low but in a high equilibrium.

We have computed the observed pay-off matrix of a two-player game controlling for the observed characteristics of the parties. Concerning the worker, our findings suggest that the game played by the worker and the firm should lead to both parties being represented. Nevertheless, in case of the English data, (NL,NL) is the most prevalent cases (56%) and a natural question to ask is why some firms and workers choose not to be represented although the ex-post pay-off matrix suggests that it is a dominant strategy. In the following sections, we search to characterize parties according to the choice of legal representation and test in our data whether this behaviour might correspond to large stakes, representation of the opposite party, pre-trial bargaining low expectation or non-financial costs. The three latter effects are tested separately since they call for variables that are only present in the employer's questionnaire.

4. Explaining the Choice of Legal Representation

4.1. Legal representation in a model of strategic discrete choice

In order to explain the choice of legal representation, we might specify a simultaneous equations model for discrete and limited dependent variables where the hiring decision depends on the opposite party's decision:

$$\begin{cases} y_F^* = X\beta_F + \gamma_F y_W + \varepsilon_F \\ y_W^* = X\beta_W + \gamma_W y_F + \varepsilon_W \end{cases} \tag{3.6}$$

y_F (y_W) is a dummy equalling one if the firm (worker) is represented. X are some controls. (ε_F, ε_W) are random components (normally distributed and with zero means unit variance and correlation ρ) and (y_F^*, y_W^*) are latent variables for the choice of legal representation: $y_i^*>0$ the party i is taking a lawyer. We can interpret y_i^* as the expected utility of the party derived from the judicial process. Such models in which latent variables and dichotomous observations occur in different equations need some coherency restrictions in order to be statistically meaningful (see Heckman, 1978). For this model, the coherency condition is $\gamma_F \cdot \gamma_W = 0$. If this condition fails, the sum of probabilities associated to each potential outcome might not equate to one and the relationship between (ε_F, ε_W) and (y_F, y_W) is not one-to-one. The coherency condition leads to "recursive probability models" eliminating simultaneity from (1). In our analysis, the expected pay-off for the firm (worker) from hiring a lawyer would be supposed not to depend on whether the worker (firm) has hired a lawyer. We estimate recursive bivariate probit models imposing in turn $(\gamma_F, \gamma_W)=(0,0)$ (the simultaneous probit) and $\gamma_F=0$ (recursive model I) and $\gamma_W=0$ (recursive model II) in model (3.6). As shown by Wilde (2000), exclusion restrictions are not necessary to make the model identifiable providing that each equation contains at least one varying exogenous

regressor. We adopt a parsimonious approach excluding insignificant variables from both equations by using estimates obtained from the bivariate probit specifying that the choice of hiring a lawyer as independent of the opposite party's choice of legal representation ($(\gamma_F, \gamma_W) = (0,0)$).

Starting with the simultaneous probit (see table 3.15 columns (1) and (2)), the hiring of a lawyer by a worker is found positively associated with the absence of a union at the workplace, her tenure and her skill. In order to build her case, she might ask the assistance of a union member who acts as a substitute for a lawyer. A large firm -more likely to be well equipped with legal expertise and experience with unfair dismissal cases- is likely to push him to invest in legal representation. The complexity of a case is expected to be an increasing function of her skill and a manager can be more prone to hire a lawyer and voice complaints. The tenure is an increasing function of the potential award that makes legal expenses worthwhile. Surprisingly, the pay is not significantly related to worker's legal representation. We exclude tenure and skill for checking if colinearity problems might explain this result, and the pay variable remains insignificant. The jurisdictions of a case are key determinants. The easiness to prove the wrongdoing differs grandly among them: missing redundancy payments are more easily proved than sex discrimination at trial. In the former case bank account sheets might be a sufficient piece of evidence. The latter case might need witnesses and testimonies and call for a more discretionary power of the judge in the enforcement of the law.

Table 3.15
Simultaneous probit and recursive models on legal representation

	Simultaneous probit		Recursive model I		Recursive model II	
	(1)	(2)	(3)	(4)	(5)	(6)
Equation :	Firm	Worker	Firm	Worker	Firm	Worker
lawhear			0.821			
			(0.52)			
emplawhear						0.547
						(0.36)
breach	-0.247**	-0.152	-0.213**	-0.137	-0.252**	-0.118
	(0.12)	(0.11)	(0.11)	(0.11)	(0.12)	(0.11)
wages	-0.668***	-0.668***	-0.533***	-0.666***	-0.679***	-0.566***
	(0.084)	(0.15)	(0.099)	(0.16)	(0.083)	(0.16)
sexdisc	0.591***	0.273	0.553***	0.278	0.591***	0.151
	(0.17)	(0.17)	(0.15)	(0.17)	(0.17)	(0.21)
jurisredund	-0.789***	-0.955***	-0.605***	-0.980***	-0.790***	-0.798***
	(0.17)	(0.13)	(0.19)	(0.13)	(0.17)	(0.18)
Ue	-0.0564***		-0.0558***		-0.0699***	
	(0.017)		(0.018)		(0.019)	
payb2	0.332***		0.329***		0.342***	
	(0.092)		(0.093)		(0.086)	
payb3	0.239*		0.219*		0.236	
	(0.13)		(0.13)		(0.14)	
payb4	0.516***		0.487***		0.512***	
	(0.12)		(0.11)		(0.13)	
btenure1	-0.561***	-0.429**	-0.489***	-0.414**	-0.558***	-0.345*
	(0.11)	(0.18)	(0.11)	(0.18)	(0.11)	(0.18)
btenure2	-0.310***	-0.213*	-0.274***	-0.214*	-0.320***	-0.174
	(0.11)	(0.13)	(0.11)	(0.13)	(0.11)	(0.12)
btenure4	0.0127	0.238**	-0.0358	0.248**	0.0129	0.229*
	(0.19)	(0.11)	(0.20)	(0.12)	(0.19)	(0.12)
largefirm	0.337***		0.368***		0.350***	
	(0.11)		(0.11)		(0.11)	
public	0.293**		0.327**		0.258	
	(0.15)		(0.16)		(0.16)	
manuf	-0.176		-0.150		-0.205	
	(0.13)		(0.13)		(0.14)	
service	-0.202**		-0.199**		-0.218**	
	(0.095)		(0.094)		(0.100)	

Table 3.15 (Continued)
Simultaneous probit and recursive models on legal representation

	Simultaneous probit		Recursive model I		Recursive model II	
	(1)	(2)	(3)	(4)	(5)	(6)
Equation :	Firm	Worker	Firm	Worker	Firm	Worker
Union		-0.336**		-0.360**		-0.403**
		(0.15)		(0.15)		(0.19)
Warningdes		0.163*		0.183*		0.158
		(0.099)		(0.098)		(0.10)
managerprof		0.261***		0.275***		0.241***
		(0.085)		(0.087)		(0.087)
lowskill		-0.176*		-0.171**		-0.177*
		(0.100)		(0.085)		(0.098)
Constant	0.247	-0.308***	-0.0712	-0.330***	0.361*	-0.596***
	(0.16)	(0.092)	(0.25)	(0.11)	(0.20)	(0.17)
athrho	0.325***		-0.154		-0.00643	
	(0.061)		(0.29)		(0.20)	
Likelihood	-1367 .84		-1366.21		-1366.64	

Notes: Additional controls: region dummies. Clustering at the official region level. Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1. Clustering at the region level. Observations : 1353. SETA sample weights.
Source: SETA surveys of 1998 and 2003.

An interesting contrast is that a firm is more likely to be represented in a case involving a highly paid worker. In term of jurisdictions, sex discrimination cases are positively related to the probability that the firm takes a lawyer. Firms of the public sector and large firms are more likely to be represented. These results are consistent with firms taking a lawyer for risk-aversion purpose and for fear of bad reputation and also to be interested in "showing their muscles" to potential plaintiffs.

With the same set of explanatory variables, we estimate the recursive models imposing in turn $\gamma_F=0$ and $\gamma_W=0$ (columns (3) & (4) and columns (5) & (6) respectively). The parameters associated with the explanatory variables do not change substantially. Likelihood ratio tests show that recursive models perform better than the simultaneous probit. The legal representation is positively related to the legal representation of the opposite party. Marginal probabilities' computations show that the hiring of a lawyer for the worker and the firm corresponds to about a significant .06 higher probability that the opposite party takes a lawyer (see table 20). The inclusion of the legal

representation of the opposite party picks up most of the correlation between the unobserved stochastic components as the correlation parameter between ε_F and ε_W falls down to zero.

The recursive probability model implies strong assumptions that are not economically appealing. After having computed the pay-off matrix of a two-player game, we find it natural to draw from the literature on empirical models of discrete strategic choice which describe the preferences and choices of interacting agents (see Bresnahan and Reiss, 1991 for an introduction) and allow relaxing the logical consistency assumption. This approach has been initiated by Bjorn and Vuong (1984, 1985) and extended by Kooreman (1994) who both applied their methodology to husband/wife labour force participation. It consists in adding an equilibrium concept to a stochastic specification of agents' pay-off in order to identify the most preferred strategies. These strategies are derived from optimizing behaviours of a two-player game. We decompose the expected utility of the worker (firm) into a deterministic component (X) composed of the characteristics of the firm and the worker and the case and a random component ε and dummies α taking into account the decision of the opposite party. We note $U^k\left(y_f, y_w\right)$ is the expected utility of the player k (w for worker and f for firm). Each of the four combinations of legal representation leads to the following expected utility:

$$\begin{cases} U^f(1,1) = X\beta_1^f + \alpha_1^f + \varepsilon_1^f \,, U^w(1,1) = X\beta_1^w + \alpha_1^w + \varepsilon_1^w \\ U^f(1,0) = X\beta_1^f + \varepsilon_1^f \,, U^w(1,0) = X\beta_0^w + \alpha_0^w + \varepsilon_0^w \\ U^f(0,1) = X\beta_0^f + \alpha_0^f + \varepsilon_0^f \,, U^w(0,1) = X\beta_1^w + \varepsilon_1^w \\ U^f(0,0) = X\beta_0^f + \varepsilon_0^f \,, U^w(0,0) = X\beta_0^w + \varepsilon_0^w \end{cases} \tag{3.7}$$

The impact of a change in legal representation on the expected utility of the player is assumed to be independent on the controls X. We impose in turn the game played by the worker and the firm following a Nash or a Stackelberg protocol.

We firstly consider that the observed legal representations (y_F, y_W) stem from Nash equilibrium. The Nash protocol implies that both parties choose simultaneously the nature of their legal representation and that each party's selection is the best response to the opponent's choice. Depending on their utility ranking, each party has four different strategies which lead to sixteen potential outcomes. The four strategies are the following:

-hiring a lawyer whatever is the choice of the opposite party;

-not hiring a lawyer whatever is the choice of the opposite party;

-hiring a lawyer only when the other party is hiring a lawyer;

-not hiring a lawyer only when the opposite party is hiring a lawyer;

The actions of each player can lead to a single Nash equilibrium, several Nash equilibria or no equilibrium at all. As a matter of illustration, if the best strategy for the worker and the firm is to be represented whatever is the strategy of the opposite party, the unique Nash equilibrium of the game will be that both parties are represented. If the worker's and firm's best strategy is to mimic the action of the opponent, there will be two equilibria: both parties are represented or none of the parties are represented. If the worker's best strategy is to mimic the action of the firm and the firm's best strategy is to do the opposite of the worker there will be no equilibrium at all.

The question is how to deal with multiple equilibria. As suggested by the literature, we randomize over them with an equal probability. A justification given by Bjorn and Vuong (1984) is that it can be shown that a mixed-strategy over the multiple equilibria would lead to an expected utility smaller than the one brought by only one

of the multiple available equilibrium. Using the model's specifications, discarding the cases where no equilibrium exists, we compute the probability of each combination to happen. See Bjorn and Vuong (1984) for further details on the computation of the likelihood function[34]. We define $\beta^f = \beta_1^f - \beta_0^f$ $\beta^w = \beta_1^w - \beta_0^w$, $\varepsilon^f = \varepsilon_1^f - \varepsilon_0^f$ and $\varepsilon^w = \varepsilon_1^w - \varepsilon_0^w$. As for the recursive models, we assume that (ε_F, ε_W) are normally distributed and with zero means unit variance and correlation ρ.

Table 3.16
Strategic choice models of legal representation

	Nash	Stackelberg Firm leader	Stackelberg Worker leader
α_1^f		-0.393	
		(0.33)	
α_0^f		-1.088**	
		(0.52)	
α_1^w			-0.239
			(0.33)
α_0^w			0.150
			(0.30)
α^f	0.808		0.656*
	(0.63)		(0.37)
α^w	0.553	0.680	
	(0.55)	(0.70)	
Athrho	-0.409	-0.519	-0.348**
	(0.55)	(0.39)	(0.17)
Likelihood	-1365.31	-1364.37	-1365.03

Notes: See table 17 columns (1) and (2) for the list of controls. Clustering at the official region level. Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1. Observations : 1353. SETA samples weights are used.
Source: SETA surveys of 1998 and 2003

Under the Nash concept, only α^f and α^w are identified. As we introduce constants among the controls, the model is identified only if the number of controls differs across players' equations. Like for the recursive models, we use the set of variables selected from the bivariate probit. Both α^f and α^w are found not statistically significant from zero at conventional levels (see table 3.16). Nevertheless

[34] We wrote the likelihood along their lines. Our Stata codes are available on request.

α^f is positive (with a p-value of .12) which means that the expected utility of firms is increased by taking a lawyer when the worker is represented. A statistical model built on a Nash equilibrium game between worker and firm fits the data better than a bivariate probit when the decision of each party has no impact on the decision of the opponent.

The concept of Nash equilibrium implies that each player provides the best response to the opponent's decision ignoring the response of the opponent. Even if it can be seen as the outcome of a long lasting learning process the Stackelberg equilibrium concept appears to be more plausible in the context of litigation during which bargaining is likely to take place before the filing of the case and once the case is filed before the case reaches trial. In a Stackelberg game, one player is the follower and the other is the leader. The leader is maximizing her utility knowing what the response of the other player will be (the follower's reaction function). For instance, consider a game for which the firm is the leader and the worker is the follower. Assume the worker is better-off being represented whatever the firm's choice is and that the utility of the firm is larger in the (L,L) case than in the (L,NL) case then the firm will choose to be represented. The statistical model built from the Stackelberg game allows the identification of the α_1^i and α_0^i for the leader *i* and the difference $\alpha^j = \alpha_1^j - \alpha_0^j$ for the follower *j*. By contrast with the Nash equilibrium, the Stackelberg game leads to a unique equilibrium. The recursive probability model is nested in the model derived from the Stackelberg game. It can be shown that when $\alpha_1^i = \alpha_0^i = 0$ is equivalent to the model (2) with $\gamma_j = 0$.

First, we consider the firm as a leader of the game. We find α_0^f strongly significantly negative. α_1^f is negative but not significant at a conventional level. A worker hiring a lawyer reduces the expected utility of the firm and this decrease is exacerbated when the firm is not represented. The firm's choice might have an impact

on the utility of the worker in absolute term but this impact is not differentiated whether the worker is represented or not (remember that only $\alpha_w = \alpha_w^1 - \alpha_w^0$ is identified). Using a less parsimonious model specification that includes all the controls used by the bivariate probit above, α^w turns out to be significantly positive meaning that the difference in the expected utility of a worker when she uses a lawyer and when she does not is increased once the firm uses a lawyer. Likelihood ratio test show that Stackelberg firm leader model performs better than the recursive probability model where the legal representation of the worker has an impact on the choice of the firm only at a slight margin (at the 10% p-value level) (see table 3.16).

When considering the worker as the leader, the Stackelberg model is not significantly different from the recursive probability model. α_1^W and α_0^W do not differ from zero. $\alpha^f = \alpha_1^f - \alpha_0^f$ is significantly positive: the firm gains in being represented particularly when the worker is represented. The likelihood of the model does not differ significantly from the recursive model I and is slightly below the Stackelberg firm leader model.

Statistical models based on the Nash and Stackelberg concepts allow getting around the logical consistency assumption. They perform slightly better than the recursive models but do not differ significantly between each other. They go in one direction: the worker hires a lawyer independently of the firm's decision but the firm does take into consideration the representation of the worker which has a substantial impact on its ex-ante expected utility of the legal process. In addition to the worker's decision, the jurisdiction of the cases and the worker's annual pay and subsequently the award at stake are key variables related to the firm's decision to be represented. Up to now, we give preference to a larger sample size. We examine in turn other explanations focusing on the workers' and the firms' samples separately as well as on the steps preceding the trial stage.

4.2. Lawyer and settlement

We have restricted our analysis to cases reaching the trial stage since the information on the representation of both parties is available only for this stage. The prisoner's dilemma – the choice to be represented at a tribunal's full hearing- might arise whatever have been the preceding steps to the trial. Nevertheless, one can claim that the return in hiring a lawyer obtained during the pre-trial stage might induce the choice in legal representation at trial. For instance, fearing a misalignment with the lawyer interest or a hardening of the judicial process, one party might decide not to be represented and in case of a settlement failure goes on unrepresented since most of the investment on the case has already been undertaken on her own: this could explain the absence of a lawyer at trial. The firms' 2003 SETA shows that among firms reaching trials sixteen switch from no representation before the trial to representation by an outside lawyer at trial. Seventy four percent of the firms that hire a lawyer before the trial are also represented by a lawyer at the tribunal hearing. Hence the switch between no representation and representation by a lawyer at the time of the trial is relatively rare. We ignore the characteristics of the party facing the respondent during the settlement process and can not compute a pay-off matrix of the game of legal representation. However we can measure the impact of a lawyer on the settlement outcome and this impact might explain why a lawyer is not retained at trial even if it appears ex-post worthy. The UK data show that a vast majority of the cases (almost 80%) are withdrawn or settled. Without dealing with the principal-agent problems that might arise when hiring a lawyer, we start by estimating a multinomial probit where the dependent variable is whether the case is withdrawn or dismissed, settled or goes to a full hearing. Concerning the firm and taking the settlement as the base outcome, we see that a lawyer is associated with a lower probability to withdrawn but not

differently related to the likelihood to settle or to go to trial[35]. (see table 3.17). The questionnaire allows us to distinguish between outside lawyer and company lawyer. A company lawyer is associated with a lower probability to go to trial and an outside lawyer is associated to a lower probability to dismiss or withdraw the case. It is worth noting that the hiring of an outside lawyer does not help the firm to avoid a trial and related additional costs[36].

Table 3.17
Marginal Probabilities from a Multinomial Probit Regressions on the outcome of the case and legal representation; Firms' surveys

Case's outcome	*Marginal probability*	*Predicted value at sample means*
Withdrawn	-0.02 (0.013)	0.20
Settled	0.04 (0.026)	0.59
Trial	-0.02(0.024)	0.21

*The marginal probability is computed from a multinomial probit regression for the independent variable: dislawyer (equalling one if an outside lawyer has been hired by the firm). The dependent variable is the outcome of the case (case withdrawn or dismissed, case settled, case adjudicated). Controls include: 2003 year dummy, jurisdictions, union presence at the workplace, local unemployment rate, gender, skills, pay, tenure,age, firm size,sector, industry,region dummies. Observations: 3,278. SETA samples weights are used. Clustering at the official region level. Source: SETA surveys of 1998 and 2003.

Turning to the financial impact of a lawyer and restricting ourselves to cases that have been settled dismissed or withdrawn, we estimate a double-hurdle model for the settlement amount awarded by the firm to the worker on one hand[37] and the probability that the settlement might be positive on the other hand. We can not test whether the representation of the firm is related to the representation of the worker during the pre-trial stage. We include a dummy equalling one if a lawyer represents the party and the legal cost in log in the regressions. A lawyer representing the firm is associated with a larger settlement amount (see table 3.18, columns (2)). On the

[35] A similar result holds for the worker.
[36] Firms' average total loss at trial is 20% higher than firms' average total loss when a settlement occurs.
[37] That might be zero in case of dismissing of the case.

employee side, we observe that a lawyer is positively related to the likelihood of obtaining a positive settlement.

Table 3.18
Settlement and Legal Representation: Double-hurdles estimates

Sample:	*Firms*		*Workers*	
Dependant variable:	*settled*	*settlement money*	*Settled*	*Settlement*
	(1)	(2)	(3)	(4)
Lawyer	0.0318	0.138*	0.0218	0.295***
	(0.062)	(0.072)	(0.090)	(0.11)
expense (log)	0.0130	0.0650***	0.0737***	0.0923***
	(0.011)	(0.010)	(0.019)	(0.015)
Observations	2 486	1 489	2 473	1 661

Notes: Lawyer is a dummy variable equalling one if a lawyer has been involved in the pre-trial stage and zero otherwise. Cases going to trial are excluded. Additional controls: 2003 year dummy, jurisdictions, union presence at the workplace, local unemployment rate, gender, skills, pay, tenure,age, firm size,sector, industry,region dummies. Clustering at the official region level. Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1.
Source: SETA surveys of 1998 and 2003.

Using these estimates, we compute the pay-off of the pre-trial stage for the firms and workers that do not reach the trial stage when they use or do not use a lawyer (see table 3.19). Firms are slightly better-off not using a lawyer during the pre-trial bargaining but lawyers appear to help workers to get more.

Table 3.19
Estimates of the pay-off of the pre-trial stage

	Workers	Firms
No Lawyer	3.83 (.068)	-7.37 (.068)
Lawyer	4.10 (.136)	-7.58 (.076)

Notes: 2486 firms and 2 473 workers (Standard-deviation in parentheses). Standard deviations are computed by delta-method. SETA samples weights are used.
Source: SETA surveys of 1998 and 2003.

A negative action of the lawyer during the pre-trial stage could justify her absence at the tribunal for the firms but not for the workers. As mentioned before, an unobservable component of the quality of the case might also explain the choice in the representation.

4.3. Quality of the case

As common in the empirical literature of litigation, we do not have a direct measure of the quality of the case. However, an original feature of the SETA surveys is to provide us with the assessment of the case at its outset by the respondent to the questionnaire. Workers and firms are asked if they were thinking their case were likely to be successful when they filed the case or have been notified[38]. We do not have the exact timing at which the worker uses a lawyer -if she does- and the filing of the case and her personal assessment on her case might be influenced by a preliminary meeting with a lawyer. Given the question asked to the employer, it is likely that her own assessment is reported and it is less likely than the optimism occurs because a lawyer has been retained . Firms and workers show a very high level of optimism on their cases[39]: 68% of the managers and 73% of the workers thought being likely to win at the beginning of the process. A high level of optimism is related to a higher likelihood to hire a lawyer both during the pre-trial bargaining and at trial. It is also associated with a higher probability for the firm to prevail (see table 3.20). Hence if we interpret at face value the assessment made by the employer on the case as a quality measure, the firm does not hire a lawyer because of an excess of optimism.

[38] More precisely the SETA 2003 survey asks "When you first put in your Employment Tribunal Application form (or When you first received notification that [APPLICANT] had applied for an employment tribunal) did you think you were likely to be successful, likely to be unsuccessful, or had an even chance? " The answer is coded in 5 categories : Very likely to be successful, Quite likely to be successful, Quite Likely to be unsuccessful, Very likely to be unsuccessful, Or that you had an even chance. In order to match the 1998 questionaire, we group the "very likely" and the "quite likely successful" categories the same for the "very likely" and "quite likely to be unsuccessful".

[39] Which supports strongly the "optimism biais" assumption made in the literature to explain the litigation puzzle.

Table 3.20

Legal Representation, Case Outcome at Trial and Assessment on the case at the start of the judicial process: Probit estimates

Dependant variable	*Taking an outside lawyer*	*Worker's victory*
chanceeven	-0.136	0.578***
	(0.086)	(0.19)
chanceplus	-0.0971**	0.654**
	(0.040)	(0.27)
Observations	3278	621

Notes: chanceeven is a dummy variable equalling one if the manager was thinking that she had an even chance to win the case. chanceplus is a dummy variable equalling one if the manager was thinking the case was likely to be successful for the worker. Additional controls: 2003 year dummy, jurisdictions, union presence at the workplace, local unemployment rate, gender, skills, pay, tenure ,age, firm size,sector, industry,region dummies. Clustering at the official region level. SETA samples weights are used. Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1.

Source: Employer SETA surveys of 1998 and 2003.

4.4. Reputation

The costs related to an unfair dismissal process might go beyond the payment of the award and the litigation cost. The firm might want to send its current employees the signal of being tough on shirking and lack of performance not only by firing shirkers but also by refusing them any compensation and going to trial. In the 2003 SETA surveys, the employer is asked whether apart from any financial costs involved the case has any other negative effects on the organisation. Forty percent of employers having reached the trial stage recognize to have incurred non-financial costs. As it is an open question in both waves, the wording of the categories differs between the 1998 and the 2003. Among those reporting non-financial costs and having reached the trial, an increase in staff stress, a bad reputation and damaged workplace relations are the most often reported in 1998 (respectively 65%, 31% and 21%). In 2003, among the 38% of managers reporting non financial costs 38% mention an increase in the level of stress and an interruption in business , 25% a low staff morale 9% a bad publicity. Only 3% of the managers mention the fear of a contagion effect e.g. the case could push other people to make claims. Given these numbers, it is hard to conjecture that

the employers harden the judicial process hiring a lawyer for the only purpose to threat their current staff to file. Probit regressions run on the employers' data both on the total number of the case and on the cases having reached trial show no significant relationship between the legal representation and the reporting of non financial costs. However restricting our analysis to large firms where a reputation effect is more likely to prevail we observe that reporting non financial costs corresponds to a significant increase of .1 in the probability to hire a lawyer whether the firm reaches or not the trial stage (see table 3.21).

Table 3.21

Marginal Probability from a Probit Regressions on Legal Representation; Firms' surveys

Hiring a lawyer	*Marginal probability*	*Predicted value at sample means*
Non financial cost	0.044 (0.021)	0.50

Notes: The marginal probability is computed from a probit regression for the independent variable: non financial cost (a dummy equalling one if the firm reports non financial cost). Dependent variable: dislawyer (equalling one if an outside lawyer has been hired by the firm). Large firms are workplaces of more than 25 workers. "Non financial cost" is a dummy equalling one if the firm reports non financial cost. Controls include: 2003 year dummy, jurisdictions, union presence at the workplace, local unemployment rate, gender, skills, pay, tenure,age, firm size,sector, industry,region dummies. Observations: 1,648. SETA samples weights are used. Clustering at the official region level.
Source: SETA surveys of 1998 and 2003.

5. Discussions

We do not proceed to any causal inference. Halla (2007) uses propensity score techniques to draw a causal analysis on the efficiency of lawyers on divorce cases. This method still assumes that the choices made by the party rely on observable components. In this paper, we compute the pay-off matrix controlling for case and plaintiff and defendant characteristics including legal costs and see whether workers and firms using legal representation correspond to particular types.

One can suspect that our results are biased by a double selection process: the one leading to choose legal representation and the one leading to drop or settle or go to trial. Thus, with respect to their unobserved qualities, the cases in one of the fourth legal representation configurations might not represent a random sample of cases that fall under the Employment Tribunals jurisdictions.

A lawyer might help to offset the poor quality of a case and no representation could correspond to cases of such high quality that plaintiffs and defendants do not feel the need of legal assistance. Under this conjecture, our results would underestimate the beneficial impact of lawyers. However, we observe that a preliminary negative assessment on the case is not positively associated to the hiring of a lawyer (see table 3.20).

The relationship between lawyer and client can be modelled as a principal-agent problem and a misalignment could arise. Paid by the hour, a lawyer could lie to her client on the true merit of the case even if one could argue that a reputation effect might prevent the lawyer to do so. We can not trace back workers and firms deciding either to settle or dismiss after having consulted a lawyer and before filing the case but a smaller probability to drop the case associated to the hiring of a lawyer and no significant impact of the lawyers on avoiding trials seem to show that the assumption that lawyers filter out low quality cases does not hold.

More formally, there is no bridge in the theoretical literature between explanations of the legal dispute puzzle and the choice of legal representation in a game theory framework. In H&S, both parties share the same beliefs on the quality of the case and corner solutions due to fixed legal cost of entry are ruled out. The probability of winning is a function of the quality of the case and the litigation costs of both parties. Under the Nash protocol assumption, plaintiff and defendant undertake the same value of legal costs: (L,L) cases should correspond to mid range quality cases and (NL,NL)

should mix low and high quality cases. Under the Stackelberg protocol assumption, the side with a better case fights harder. The (L,NL) and (NL,L) cases should correspond respectively to high and low quality cases and our results could overestimate the impact of a lawyer.

H&S do not consider pre-trial selection of cases. The asymmetric information theory by Bebchuk (1984) and the different expectation theory by Priest and Klein (1984, P& K hereafter) mentioned in section 3 are the two prominent theories advanced in the literature to explain why parties prefer going to court rather than agree on a settlement. The difference expectation theory (DE) states than plaintiff and defendant form random unbiased estimates of the case quality. These estimates confronted with the legal standard give each party an estimation of the probability of victory for the plaintiff. If the plaintiff is sufficiently more optimistic than the defendant relatively to the litigation costs a trial occurs. More precisely the necessary condition for a trial to occur is:

$$P_P - P_D > \frac{C_P + C_D}{J} \tag{3.8}$$

Where P_P and P_D are the probabilities of plaintiff's victory predicted respectively by the plaintiff and the defendant (C_P and C_D being the additional litigation costs related to the trial stage and J the award at stake). Other things equals, the DE predicts that an increase in litigation costs leads to a greater selection of the parties and a closer convergence to equivalent plaintiff-defendant victories. This conclusion is mitigated when considering P_P and P_D as function of litigation costs and the choice of legal representation independent of the quality of the case. With respect to (L,L) cases and as soon as the marginal benefit of hiring a lawyer is positive, the (L,NL) should present a larger range of qualities by increasing the left hand side and decreasing the right hand side of the inequality (3.8). The (NL,L) cases should present a narrower range of case qualities. Nevertheless, the variance of the probability of winning of the

worker does not show significant differences among the legal representation categories which do not plead in favour of the DE selection process.

In the asymmetric information (AI) framework, one of the party has an informational advantage on the quality of the case and then on the probability of victory. The poorly informed party makes a take-it-or-leave-it settlement offer to the other. A rejection leads to trial. The hiring of a lawyer should give an informational advantage on the quality of the case. Ranking each of categories according to the average quality of the case, we could conclude that (L,L) > (NL,L) and (L,NL) > (NL,NL) on one hand and (L,L) < (L,NL) and (NL,L)< (NL,NL) on the other hand. In that case, our results would overestimate the benefit from taking a lawyer. However, as noted before if such selection process is going on, a lawyer would have an impact on the settlement rate versus the trial rate which is not the case. This casts a doubt on the potential bias resulting from the AI framework.

We need to develop a theoretical model including both selection process to trial and selection process into legal representation within a game theoretic framework to analyse thoroughly the selection bias from which could suffer our results. Drawing on the existing theoretical literature, our data do not suggest selection bias due to difference in expectation or asymmetric information on the quality of the case. However, one can not rule out selection bias on the choice of legal representation based on a Stackelberg game where the quality of the case is common knowledge. As this model predicts that the side with the better case fights harder, our results could overestimate the impact of a lawyer.

Conclusion

Like in previous empirical literature but on a more complete set of data, we find that hiring a lawyer increases the probability of victory at trial. By contrast, lawyers do

not neutralize each other when retained on both sides of a dispute, and legal representation is more beneficial to the firm when both parties are represented than when neither of them uses a lawyer. This invalidates the presence of a prisoner's dilemma in the game of legal representation on the whole sample of cases. However we do find a prisoner dilemma when we restrict ourselves to small firms or unfair dismissal case. Other necessary conditions for its existence are met in all specifications. When including the cost of the legal representation, we observe that lawyers allow the firms to obtain more than they cost. The net gain for the worker is significantly positive especially when the firm is represented. We could interpret this last result as workers good at making the trade-off between the quality of the case and the necessity of legal representation. Statistical models built on Nash or Stackelberg equilibria concept and interacting the choices of both parties show that the legal representation of the worker pushes the firm to be represented but that the opposite is not true. The use of a lawyer by the firms is also related to the complexity of the case and the amount at stake. The presence of non financial cost such as bad publicity or fear to have faced additional claims is related to the hiring of a lawyer for large firms.

Our analysis has not been causal and Farber and White (1990) show that controlling for the quality of the case is of major importance to explain the outcome of a case. In addition to numerous observable variables that most of studies do not have, we use as proxy for the case quality the assessment given by the respondent at the start of the case. This assessment is likely to be biased by subjectivity and what has been the outcome of the case. Moreover, we have the assessment of only one of the two parties. An instrumental approach based on the institutional setting of the UK or the French system might be a fruitful avenue for future research.

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4. Legal cost allocation and judicial outcomes: the case of individual labour disputes in the UK

A large amount of the literature in labour economics has been dedicated to the study of collective labour disputes. By contrast, labour disputes at the individual level have not been extensively investigated. However, data available in some European countries show that individual labour disputes constitutes a phenomenon of a large and increasing importance likely to weight on industrial relations and labour market characteristics. Hence, the yearly number of claims related to an individual labour dispute in the UK amounts for about 10% of the people claiming unemployment-related benefits and it has roughly trebled from 1990 to 2003 reaching about 100,000 in 2003. If as pointed out by Burgess, Proper and Wilson (2001) a large part of the increase can be explained by the introduction of new rights in the 1980 and 1990, the number of claims has also increased within most of the jurisdictions. These authors attribute to the drop in the union membership rate, the decline in manufacturing employment and the increase in the workforce employed in small firms this increase. The global picture of labor disputes of an economy on the path of post-industrialization could be a shift from strikes and collective actions to the rise in individual disputes and judiciary claims. The rise in individual labor disputes and in the number of dismissals challenged in front of a tribunal is also likely to represent higher firing costs[40] not only through litigation costs related to an on-going dispute but also through the expenditure in the judicial advising necessary to avoid them.

A potential policy response to limit the growth of the number of judicial claims, the hardening of the judicial process and the deterioration of labor relations is to encourage settlements and discourage filings. The introduction of a notification period

[40] See Autor and alii (2003) or Fraisse and alii (2007) for the impact of labor laws and their enforcement on labor market outcomes.

and a mandatory meeting to discuss the reasons of the dismissal between the worker and the employer are likely to encourage both since the parties are at least forced to discuss the matter[41]. The policy maker can also alter the allocation rule of legal costs. In Great Britain , the losing party risks not to bear only its own legal fees (known as the "American rule" in the literature) but also the legal fees of the opposite party (the "English rule"). Under a 2001 regulation[42] the maximum amount of the deposit which may be imposed following a pre-hearing review and the maximum amount of costs which a tribunal may award against the losing party -without an assessment of costs- if it finds that the case or defence was "misconceived, vexatious, and/or had no reasonable chance of success", increased respectively from £150 to £500 and from £500 to £10,000. Taking advantage of two successive samples of UK Employment Tribunal cases drawn in 1998 and 2003 collecting a very rich set of information on the plaintiff and the defendant, we assess the impact of this new regulation –that we interpret as a shift from the American rule to the English rule- on judicial behaviors for a widespread type of judicial action in Europe.

Landes (1971), Posner (1973) and Gould (1971) were the first to implement theoretical models allowing to gauge the influence of the English rule on judicial behaviors. In their settings where plaintiff and defendant are assumed risk-neutral and their probability of prevailing at trial independent on the litigation costs, the judicial behaviors rely on divergent beliefs on the judicial outcome[43]. Within their difference expectation framework (DE hereafter), the English rule is supposed to filter out low quality claims since –facing higher litigation costs- the expected gain of a bad quality

[41] A legislation came into force in 2004 in Great Britain imposing a statutory minimum dispute resolution procedure in the event of an employment dispute follows this purpose.
[42] See Employment Tribunals (Constitution and Rules of Procedure) Regulations 2001 SI 2001 No. 1171 and the Employment Tribunals (Constitution and Rules of Procedure) (Scotland) Regulations 2001 SI 2001 No. 1170
[43] This difference in beliefs might stem from a informational advantage possessed by one of the party (see Bebchuk, 1984)).

case will decrease. On the contrary it will enlarge the pool of low award-high quality claims which would not have be filed under the American rule since the award would not have covered the legal expense. Hence the impact on the filing rate depends on the distribution of claims according to their qualities and potential awards. Once the case is filed, parties must decide whether to settle or litigate. The settlement gap or "contract zone" is defined as the difference between the maximum amount the defendant is ready to offer and the minimum amount that the plaintiff is ready to accept in order to settle. If this settlement gap is positive, there is room for settlement. This gap depends on the expectation the parties have on the case and on the litigation costs. The English rule is likely to exacerbate litigation as the expected gain of an optimistic party will be higher. In the same time, larger stakes might increase legal expense (Katz, 1987 or Hause, 1989) and give greater incentive to risk-averse parties to settle. As underlined by Cooter and Rubinfeld (1989), "the direction of the overall effect upon the frequency of trials of changing the rule for distributing legal costs cannot be determined from theory alone" and empirical and experiment studies are needed.

The empirical analysis of the impact of the English rule is scarce since in most country the English rule prevails and the shift from a regime to another is rare. Perloff, Rubinfeld and Ruud (1996) using antitrust cases find that treble damages lead to an increase in the number of settlements. By contrast, Danzon and Lillard (1983) using medical malpractice claims filed in 1974 and 1976 find that larger potential damages lead to less litigation. Fournier and Zuehle (1989) grouping cases collected from a survey of civil filings collected in 1979 and 1980 into 99 categories with different fee-shifting rules find that English rule reduce the probability of settlement. Avoiding results that might be driven by differences among jurisdiction, Snyder and Hughes (1990, 1995) exploit the adoption by the State of Florida of a mandatory fee-shifting

rule for medical malpractice claims during the period 1980-1985. They find that the English rule encourages litigations in the detriment of settlements and raises the dropping rate and the plaintiff success rate at trial.

The next section describes the English institutional setting and the legislation change that have occurred over the period under review. Then we detail the theoretical predictions of the fee-shifting rule on the filing rate stressing the role of risk-aversion, the settlement rate and the amount of the legal costs before 4 describing the dataset and providing empirical results.

1. English Institutional setting and legislation change

The Employment Tribunals (ET hereafter) are in charge of adjudicating employer-individual employee disputes since the Redundancy Payment Act of 1965. They acquired jurisdictions over unfair dismissals with the Industrial Relation Act of 1971. The trial is chaired by a professional judge assisted by two lay-members- one with an employer background, the other with a trade union or employee representative background. The lay judges are chosen by the administration from lists of persons proposed mainly by trade unions and employer groups.

A conciliation service named Advisory, Conciliation and Arbitration Service (ACAS hereafter) was created in 1974 and is an integral part of the employment tribunal system. ACAS offers help and advice to parties who wish to conciliate but this conciliation step is not mandatory.

A case –registered as soon an application form is send by the applicant to the Employment Tribunal- can either be withdrawn, settled (privately or through ACAS) or go to full tribunal hearing. From October 2004, and hence not under the scope of our data analysis, all employers and employees in Great Britain follow statutory minimum dispute resolution procedures in the event of an employment dispute.

Basically, these procedures make mandatory notification and formal meeting between employer and employee in the case of dismissal or grievance procedure.

In addition to the new cost regime, several policy measures might have modified the pool of Employment Tribunal claims over the period under review. First, a new ACAS arbitration scheme has been set up to facilitate a speedy conciliation The scheme is designed to provide a private, more informal and speedy procedure for resolving unfair dismissal claims that do not achieve a settlement. Parties opt into the scheme voluntarily, by agreement. Only 43 cases in the population[44] had been completed under the scheme over the 2001-2004 period[45]. Second, in an unfair dismissal case, the tribunal might award a "basic" award calculated according to a fixed statutory formula depending on the weekly pay and the length of service of the claimant and a "compensatory" award compensating for financial loss suffered as a result of the dismissal. In October 1999, the maximum limit of the compensatory award was increased from £12,000 to £50,000 (Employment Relations Act 1999 s.34(4)). We can not exclude that this increase in the maximum compensatory award might have an impact on judicial behaviours but our data set shows that the total amount awarded (that is the basic and the compensatory awards) tops these limits for only 7 cases that is 2% of unfair dismissal cases awarded[46] in our samples. Third, the qualifying period to claim in the unfair dismissal[47] decreases from 2 to 1 year of employment. We try to control this shortening of the tenure clock by discarding in a separate analysis unfair dismissal cases with tenure below 2 years[48].

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[44] There have been 51,512, 45,373, 44,942 unfair dismissal cases in 2002, 2003 and 2004 respectively. See Employment Tribunal Services Annual Report 2004-2005.

[45] See «The Acas Arbitration Scheme: An evaluation of parties' views » ACAS/RP03/04 for an assessment of the scheme.

[46] Which is an upper bound since our award variable includes basic AND compensatory award.

[47] There is no qualfying period in other jurisdictions.

[48] There are "automatical" unfair dismissals for which the probationary period does not apply ("parental leave, minimum wage,trade union...). In 2003, we are able to distinguish them from the others. Not in 1998. In 2003, 13% of non automatic unfair dismissals have a tenure of less than one year. This proportion is the same in 1998 (over the unfair dismissal category since we are not able to distinguish automatical unfair dismissal in 1998). In 2003, the proportion of unfair dismissal cases between 1 and 2

Several acts adopted between 1998 and 2003 (minimum wage act, working time regulation act, maternity and parental Leave Regulation) have enlarged the grounds for unfair dismissals. Fortunately, the 2003 survey keep track of these types of disputes (11% of the ET cases in 2003) and we discard them for making the comparison with the 1998 data set.

2. Theoretical Predictions

The new cost regime intends to "weed out unmeritorious and low quality cases". A simple framework can illustrate what legislators had in mind. In order to introduce risk-aversion, taking on Perloff, Rubinfeld and Ruud (1996), we consider that expected utilities of applicant *(A)* and employer *(E)* depend on the mean and variance of their income y_k $EU(y_k) = \mu_k - \delta_k \sigma_k^2$ $k=A,E$ where μ_k is the mean of y_k, σ_k its variance and δ_k a parameter characterizing risk-aversion. We define p_A and p_E the probabilities of applicant victory at trial and D_A and D_E the award at stake such as respectively assessed by the applicant and the employer, C_A and C_E their litigation costs. Under the American rule, the expected gain of applicant from the judicial process is:

$$Gain_A^{Am} = p_A D_A - C_A - \delta_A \sigma_A D_A^2 \qquad (4.1)$$

The first two terms are the expected gain at trial. The second term is the risk-aversion cost measured by the variance of the award ($V(D_A) = \sigma_A D_A^2 = p_A(1-p_A)D_A^2$) compounded by a risk-aversion parameter. It becomes under the English rule:

$$Gain_A^{En} = p_A D_A - (1-p_A)(C_A + C_B) - \delta_A \sigma_A^2 (D_A + C_A + C_B)^2 \qquad (4.2)$$

Hence providing the applicant is very optimistic on his case, the English rule encourages the filing of high quality cases (those for which p_A tends to 1 for which

years of tenure has increased (from 12 to 22%). Rather than including interactions terms in our regression, we prefer to discard unfair dismissal cases with less than 2 years of tenure from our analysis. We keep cases from the other jurisdictions without regard to the tenure since they are not constrained by a probationary period.

expected legal costs and risk aversion do not bite) and high quality/low awards cases (that were not worth filing because of negative expected value under the American rule)[49]. Low or average quality cases are more deterred from filing under the English rule as soon as the defendant has substantial litigation costs. Letting temporarily aside risk-aversion, under the American rule, a case is filed as soon as $D_A / C_A \geq p_A$. Under the English rule, this condition becomes $D_A/C_A \geq (1\text{-}1/p_A)\ (1+C_B/C_A)$. Hence large employer threaten to invest in the case can prevent from filing applicants that would have sued under the American rules.

The English rule might also lead to larger litigation costs by increasing the marginal benefit of judicial costs since they are externalized toward the employer. If we consider a risk-neutral applicant and that D_A is an increasing concave C^l function of the applicant's legal cost, the optimal legal cost –which maximized the expected gain from the judicial process is defined through the first order condition as $D'_A(C_A) = 1/p_A$ for the American rule and $D'_A(C_A) = (1-p_A)/p_A$ for the English rule.

In order to measure the impact of the English rule on the settlement rate, we define the settlement gap as the difference between the expected costs of the employer and the expected gain of the applicant from the judicial process. A positive settlement gap might lead to settlement since the offer the employer is ready to make to the applicant is above the expected gain of the applicant from the judicial process. An increase in the settlement gap enlarges the contract zone and the likelihood of a settlement. Under the English rule, the settlement gap is:

$$Cost_E^{En} - Gain_A^{En} = p_E D_E - p_A D_A + \delta_A \sigma_A^2 D_A^2 + \delta_E \sigma_E^2 D_E^2 + (C_A + C_B) \qquad (4.3)$$

This becomes under the American rule:

[49] One could object obviously that an applicant very optimistic on his case will not undertake any legal expenses and that the allocation of cost will have no impact anyway.

$$p_E D_E - p_A D_A + \delta_A \sigma_A^2 (D_A + C_A + C_B)^2 + \\ \delta_E \sigma_E^2 (D_E + C_A + C_B)^2 + (p_E - p_A)(C_A + C_B) + (C_A + C_B) \quad (4.4)$$

Switching from the American rule to the English rule lead to a change in the settlement gap of:

$$\delta_A \sigma_A^2 \left[(D_A + C_A + C_B)^2 - D_A^2 \right] + \delta_E \sigma_E^2 \left[(D_E + C_A + C_B)^2 - D_E^2 \right] \\ + (p_E - p_A)(C_A + C_B) \quad (4.5)$$

Hence, an optimistic applicant for which $p_A \geq p_E$ makes a settlement gap less likely under the American rule. If the firm and the worker share the same expectation on the outcome of the judicial process, the American rule makes the settlement more likely because of risk-aversion. If firm and worker agree on the high quality of the worker's case, the worker optimistic bias ($p_A = p_E = 1$) as well as the risk averse terms rule tend to zero the American and the English rule should not have any differentiate impact.

To sum up, theoretical models show that the English rule encourages high quality – low award cases and larger litigation costs to file in. Ambiguous predictions are found for the settlement rate as the size of the risk aversion and the legal expenses on one hand and the optimist bias of the applicant on the other hand go in opposite directions.

3. Data set and estimations

We use the 1998 and 2003 waves of the Survey of Employment Tribunal Applications series (previous waves were collected in 1987, 1992 and 1998). The 2003 wave is composed from a random sample of 4,517 cases divided into two independent samples of applicants (2,236 cases) and employers (2,281 cases). Each 2003 samples was drawn across all jurisdictions from tribunal cases completed between March 2002 and March 2003. Both samples are representative of cases completed in Great Britain during this period. In 1998, a disproportionate sampling

has been adopted in order to get a meaningful analysis at the regional and jurisdiction levels. The 1998 wave is also composed of two independent samples of applicants (1,384 cases) and employers (1,292 cases) representative of cases that have been registered between January 1995 and April 1997. In contrast with 2003, they only cover the five main jurisdictions[50] -Unfair Dismissal, Breach of Contract, Wage Act, Redundancy Payment, Discriminations- to which we will restrict our analysis hereafter. Even if we control in our multivariate models for the stratifying variables (regions and jurisdictions in 1998) we use sample weights in all of our regressions to be sure that change in the sampling is not mistakenly attributed to a treatment effect.

Bearing in mind the drawbacks of any information gathered ex-post and requiring recalls, the information collected from employers and applicants are obviously richer than the one administratively collected. Indeed, characteristics of the employee -before and after the judicial process-, characteristics of the firm, the representative, the settlement offers, the costs of litigation, the amount awarded are provided at a very detailed level. Ex-post subjective expectations over the outcome of the case are gathered. Reasons for decision made along the process such as reasons for not being represented, for withdrawing or for rejecting settlement are given. Awareness of the cost regime and the litigation process system is also investigated. Information are also given on the way the dismissal was handled —with or without a formal meeting or a written notification, or on the presence of a human resource department or unions at the workplace- which could help us to understand the bargaining process between employer and employee. However, our aim to compare the 1998 and 2003 outcomes requires to limit ourselves to variables available in both waves and in the most extensive data set to those available in the employer AND the applicant surveys.

[50] In 2003, 89% of the cases belong to these five jurisdictions.

As the vast majority of empirical studies on litigating claims, we can not do better that considering the cases that have been filed. Even if the Employment Tribunal process is safer judiciary speaking, a bargaining process between the applicant and the employer on the dismissal decision or on the amount of severance payments might obviously take place in the "shadow of the law" without any notification to the Employment Tribunal.

Following our theoretical overview, cases reach the settlement-litigation choice conditionally on not being dropped. We observe neither the applicant expected gain of the judicial process nor the employer expected loss. We write them as latent variables:

$$\begin{cases} Gain_A = X\alpha + \varepsilon_{Gain,A} \\ Loss_E = Z\beta + \varepsilon_{Loss,E} \end{cases} \tag{4.6}$$

The applicant will drop her case if her expected gain from the judicial process is negative. Conditionally on not dropping the case, we assume that the case is settled if the settlement gap is positive:

$$\begin{cases} P(drop) = P\left(Gain_A \le 0\right) = P\left(\varepsilon_{Gain,A} \le -X\alpha\right) \\ P(settle/drop) = P\left(Loss_E \ge Gain_A / Gain_A \ge 0\right) \\ = P\left(Z\beta - X\alpha \ge \varepsilon_{Gain,A} - \varepsilon_{Loss,E} / \varepsilon_{Gain,A} \le -X\alpha\right) \end{cases} \tag{4.7}$$

The English rule is captured by a dummy equalling 1 for the 2003 wave. Following Marinescu (2007) we use the regional unemployment rate and the regional VAT deregistration rate by industry at the time of application in order to control for changes in economic activity.

In case of unfair dismissal, a basic award calculated on the basis of the number of weeks of employment and the weekly salary is automatically awarded to the applicant in case of success. A compensatory award taking into account among others the current and future loss of wages, the loss of perks, employment protection rights or

pension benefits might also be awarded. Hence X and Z must include the weekly pay and the tenure for a proxy of the basic award. For the potential loss and difficulty to find a comparable new job we include the level of skills, working time regime, age, gender, industry of the former job.

The presence of a union at work place, a written contract including the terms and conditions of employments might help the worker to assess the quality of his case. On the employer side, we might consider that the size of the workplace and the sector are good proxies for the judicial knowledge and the experience in dealing with Industrial Tribunal cases. As underlined by Cooter and Rubinfeld (1989), some parties are likely to be more concerned by the outcome of the judicial process because they might face similar litigations in the future. As a proxy, we use here the number of unfair dismissal cases in which the firm has been involved in the last 2 years. Finally, unfair dismissal is the only jurisdiction for which a separated analysis is possible. We include jurisdictions dummies. The awarding rule differs with jurisdiction: for example, there is no limit on discrimination cases. The easiness to prove the wrongdoing also differs grandly: lack of redundancy payments is more easily proved than discrimination at trial.

Every sample taken separately is supposed to be "representative" of the pool of Employment Tribunal cases but some variables of interest are only collected by the applicant survey -union membership, current employment status- or by the employment survey –previous experience of Employment Tribunal cases, Employer Association memberships. As we will see below, the presence of union at the workplace is a key variable determining the case outcome. As this variable is present in every sample beside the 1998 employer sample we compute a proxy by predicting the presence of unions at the workplace by the variable "recognition" ("worker's right of being represented by a union in a labour dispute") using the applicant survey in

1998. Using "recognition" in the 1998 employer survey, we obtain a proxy for the presence of union at workplace[51].

Some variables are subject to large difference in appraisal: about 80% of the employers consider having issued a written statement of conditions and terms of employment to their employees. This percentage drop to 60% when ask to the applicants. Hence even it causes a large drop in our sample size, we also run regression separating the employer from the applicant waves.

We group cases in three categories: cases dismissed or withdrawn after having been filed (the "drop" category hereafter), cases that lead to a settlement and cases that go to a full hearing. From 1998 to 2003, the proportion of cases settled increases by 16% resulting mainly in a decrease in the proportion of cases going to trial (33%) as the proportion of cases that have been dropped did not change (21% in both waves, see Tables 4.1 and 4.2).

Table 4.1
Variables description

Variable	*Description*
Costrule	Dummy equal 1 if case of 2003 wave
Economic Activity	
VAT	Regional VAT deregistration rate
UE	Regional Unemployment
Case Characteristics	
settle	Case outcome (dummy equal 1 if case settled)
withdw	Case outcome (dummy equal 1 if case withdrawn)
dismets	Case outcome (dummy equal 1 if case dismissed)
trial	Case outcome (dummy equal 1 if case reach full hearing)
appwin	Case outcome (dummy equal 1 if applicant win at trial)
chanceplus	Perceived likelihood of success (dummy equal to 1 if likely to win)
chanceeven	Perceived likelihood of success (dummy equal to 1 if even chance)
chanceless	Perceived likelihood of success (dummy equal to 1 if likely to lose)
unfair	Main jurisdiction (dummy equal 1 if unfair dismissal)
breach	Main jurisdiction (dummy equal 1 if breach of contract)
wages	Main jurisdiction (dummy equal 1 if wage contract)
discri	Main jurisdiction (dummy equal 1 if any discrimination)
redund	Main jurisdiction (dummy equal 1 if redundancy payment)
writproc	Written Procedure (dummy, equal 1 if applicant issued with written statement stating terms and conditions of employment)

[51] The variable "recognition » is absent from the 2003 wave so we can not use it as a proxy for union in our analysis.

Table 4.1 (Continued)

Variable	*Description*
warningdes	Warning before dismissal (dummy equal 1 if the employer warned the applicant before dismissal)
Applicant Characteristics	
age	Age
female	Female
ann_pay	Annual Pay
managerprof	Occupation (dummy, equal 1 if Managerial/Professional occupation)
Lowskill	Occupation (dummy, equal 1 if Elementary Occupation or Process, Plant, and Machine Operatives occupation)
Partime	Employment Status (dummy, equal 1 if employed part time)
Union	Union (dummy, equal 1 if union present at the workplace)
Unionmemb	Union Member (dummy, equal 1 if applicant union member)
Currempl	Current Employment Status (dummy, equal 1 if currently employed)
moremoneynewjob	Current Employment Status (dummy, equal 1 if applicant earns more money in her new job)
samemoneynewjob	Current Employment Status (dummy, equal 1 if applicant earns same amount of money in her new job)
lessmoneynewjob	Current Employment Status (dummy, equal 1 if applicant earns less money in her new job)
nonprofit	Public/Private/Non Profit sector statys (dummy, equal 1 if non profit sector)
sicgp1	Industry (dummy equal 1 if agriculture and fishing)
sicgp2	Industry (dummy equal 1 if mining and utilities)
sicgp3	Industry (dummy equal 1 if manufacturing)
sicgp4	Industry (dummy equal 1 if construction)
sicgp5	Industry (dummy equal 1 if whole and retail)
sicgp6	Industry (dummy equal 1 if hotels and Rest.)
sicgp7	Industry (dummy equal 1 if Transports, Comm. And Utils)
sicgp8	Industry (dummy equal 1 if finance)
sicgp9	Industry (dummy equal 1 if other services and public administration)
ea	Firm is member of employers association (dummy equal 1 if member)
nbcases0	Previous Experience with ET (dummy equal 1 if no experience)
nbcases1	Previous Experience with ET (dummy equal 1 if at least one case)
Representation,Cost and Award:	
lawhear	Representation at hearing (dummy equal 1 if lawyer, sollicitor or barrister represented applicant)
emplawhear	Representation at hearing (dummy equal 1 if outside lawyer, sollicitor or barrister represented employer)
settlemoney	Monetary Settlement (if any)
award	Award at Trial if any
proposettlemoney	Amount of settlement money (if any) proposed and refused by the applicant
legalfee	Legal fees personally paid (if any)

Table 4.2

Variables means (weighted)

Survey:	Employer	Applicant	Employer	Applicant
Number of observations	1292	1384	2033	2003
Variables				
Costrule	0	0	1	1
Economic Activity				
VAT	0.01	0.01	0.01	0.01
UE	8.35	8.25	5.21	5.31
Case Characteristics				
Settle	0.49	0.55	0.61	0.60
Withdw	0.15	0.11	0.15	0.17
Dismets	0.10	0.06	0.06	0.04
Trial	0.27	0.27	0.18	0.19
Appwin	0.10	0.15	0.08	0.13
Chanceplus	0.18	0.75	0.11	0.73
Chanceeven	0.09	0.05	0.25	0.25
Chanceless	0.73	0.20	0.65	0.02
Unfair	0.62	0.60	0.48	0.45
Breach	0.08	0.09	0.16	0.14
Wages	0.16	0.18	0.26	0.27
Discri	0.06	0.06	0.09	0.09
Redund	0.08	0.08	0.02	0.05
Writproc	0.52	0.32	0.88	0.57
Warningdes	0.70	0.20	0.74	0.28
Applicant Characteristics				
Age	39	41	38	42
Female	0.38	0.41	0.37	0.38
non white	0.14	0.09	0.00	0.09
ann_pay	15837	13831	36077	31082
Managerprof	0.21	0.26	0.22	0.31
Lowskill	0.26	0.20	0.29	0.25
Partime	0.12	0.13	0.10	0.13
Union	0.34	0.23	0.23	0.25
Unionmemb	0.22	na	0.24	na
Currempl	0.76	na	0.79	na
Moremoneynewjob	0.30	na	0.42	na
Samemoneynewjob	0.18	na	0.16	na
Lessmoneynewjob	0.51	na	0.41	na
Tenure	5.55	6.39	4.49	5.77
Firm Characteristics				
Public	0.13	0.10	0.12	0.20
Private	0.81	0.86	0.83	0.77
Nonprofit	0.06	0.04	0.05	0.03
asizew1	0.50	0.57	0.46	0.47
asizew2	0.13	0.15	0.18	0.14
asizew3	0.27	0.19	0.23	0.24
asizew4	0.10	0.09	0.13	0.15
Manuf (sigcp=1,2,3,4)	0.32	0.31	0.32	0.27
Service (sigcp=5,6,7,8)	0.31	0.36	0.34	0.43
Otherservice	0.37	0.34	0.34	0.30
Ea	0.37	Na	0.35	na

Table 4.2 (Continued)

Survey:	Employer	Applicant	Employer	Applicant
nbcases0	0.57	na	0.52	na
Representation,Cost and Award:				
Lawhear	0.19	0.19	0.33	0.20
Emplawhear	0.34	0.33	0.47	0.41
Settlemoney	2185	53971	3077	4242
Award	872	2438	4728	3788
Proposettlemoney	1657	1507	3065	4242
Legalfee	779	396	2756	739

Source: Employer and applicant data from SETA 1998 and SETA 2003.

The answer to the question "When you sent off your Industrial Tribunal application did you think you were likely to win your case, likely to lose or did you think your chances were about evens?" may help to assess the "optimistic bias" of the applicant. In 1998, this perception of success was coded into 3 categories against 5 in 2003 which makes risky the comparison across time. If we interpret this answer along p_A and p_E, both applicant and employer are very optimistic on their case and seem to suffer from a self-serving bias (Loewenstein, 1994) –which is a robust result in the empirical literature (Bar-Gill, 2005).

4. Results

4.1. Allocation of costs: Settlement and dropping rates

We start by running multinomial logit regressions letting aside the selection process occurring at the dropping or settling decision node (see Table 4.3). When we consider the applicant survey and the employer survey together, we observe that the English rule has no significant impact on the "drop" decision but decreases substantially the likelihood of trial with respect to the one of a settlement[52]. When considering the employer and applicant surveys separately with the same set of

[52] When we do not weight the data a negative and significant impact of the english rule is also found on the dropping rate.

explanatory variables, we observe that this result is mainly driven by the employer data. Since both applicant and employer surveys should be representative of the population of cases, one possible explanation is the difference in the quality of answers of the respondent.

Table 4.3

Multinomial logit on the outcome of the case

Dependent Variable: Outcome of the case (Base: Settlement)						
Sample:	Applicants and Employers		Applicants only		Employers only	
	Drop	Trial	Drop	Trial	Drop	Trial
Costrule	-0.204	-0.430**	0.192	-0.0169	-0.642	-0.828***
	(0.31)	(0.21)	(0.29)	(0.35)	(0.57)	(0.26)
Vat	-0.147	-1.424	1.748	1.608	-3.291	-5.377*
	(2.89)	(1.95)	(3.24)	(2.29)	(3.03)	(3.18)
Ue	-0.0597	0.00696	0.00292	0.129	-0.132	-0.113*
	(0.089)	(0.059)	(0.066)	(0.10)	(0.16)	(0.059)
Union	0.424***	0.0147	0.619***	0.126	0.179	-0.0378
	(0.088)	(0.066)	(0.18)	(0.15)	(0.11)	(0.069)
Writproc	0.0161	-0.0513	-0.0563	-0.0407	0.0553	-0.0575
	(0.058)	(0.078)	(0.076)	(0.100)	(0.11)	(0.16)
Discus	-0.0377	0.0298	0.0134	0.129	-0.0614	-0.0707
	(0.066)	(0.084)	(0.086)	(0.11)	(0.11)	(0.093)
Warningdes	-0.120*	0.0627	-0.00851	0.0830	-0.223***	0.0287
	(0.065)	(0.078)	(0.071)	(0.12)	(0.081)	(0.10)
Breach	-0.307***	0.192*	-0.171	0.248**	-0.429**	0.0951
	(0.11)	(0.10)	(0.14)	(0.12)	(0.19)	(0.10)
Wages	-0.489***	0.216*	-0.655***	0.399***	-0.377***	0.00509
	(0.079)	(0.13)	(0.15)	(0.11)	(0.097)	(0.20)
Sexdisc	0.123	-0.156	0.177	-0.0396	-0.00413	-0.232
	(0.095)	(0.13)	(0.21)	(0.26)	(0.12)	(0.20)
Jurisredund	0.245	0.804***	0.0391	0.785***	0.451*	0.792***
	(0.22)	(0.14)	(0.23)	(0.17)	(0.27)	(0.24)
Female	-0.371***	-0.278***	-0.366***	-0.273*	-0.357***	-0.297**
	(0.090)	(0.11)	(0.11)	(0.16)	(0.12)	(0.13)
Partime	-0.206	-0.140	-0.241	-0.0727	-0.167	-0.150
	(0.17)	(0.13)	(0.25)	(0.18)	(0.18)	(0.19)
Occupation (job3-job5)						
managerprof	-0.0714	0.0121	-0.0857	-0.0664	-0.0112	0.0474
	(0.11)	(0.094)	(0.17)	(0.15)	(0.063)	(0.088)
Lowskill	-0.0659	0.0203	-0.105	-0.00937	-0.0192	0.0555
	(0.12)	(0.097)	(0.092)	(0.14)	(0.17)	(0.12)
Annual Pay (<10K£)						
£10000-£14999	-0.241**	-0.133	-0.308*	-0.128	-0.166**	-0.0988
	(0.11)	(0.11)	(0.19)	(0.17)	(0.083)	(0.12)
£15000-£19999	-0.251*	-0.204*	-0.287	-0.251	-0.165	-0.0990
	(0.15)	(0.12)	(0.19)	(0.18)	(0.17)	(0.17)
£20000+	-0.364***	-0.234*	-0.262	-0.148	-0.493***	-0.335
	(0.13)	(0.13)	(0.20)	(0.15)	(0.17)	(0.26)

Table 4.3 (Continued)

Dependent Variable: Outcome of the case (Base: Settlement)						
Sample:	Applicants and Employers		Applicants only		Employers only	
	Drop	Trial	Drop	Trial	Drop	Trial
Tenure (between 3 and 7 years)						
< 1 yr.	0.582***	-0.0500	0.559***	-0.0730	0.575***	-0.0771
	(0.11)	(0.11)	(0.20)	(0.20)	(0.14)	(0.079)
1-2 yrs.	-0.0329	0.0572	-0.115	0.0402	-0.00142	0.0507
	(0.091)	(0.068)	(0.16)	(0.15)	(0.18)	(0.13)
>7 yrs.	0.217*	0.167*	0.123	0.214	0.307*	0.105
	(0.13)	(0.099)	(0.17)	(0.20)	(0.18)	(0.14)
Age (25- 34 yrs)						
(<25 yrs.)	-0.0579	-0.194	0.0244	-0.0355	-0.0972	-0.300
	(0.14)	(0.16)	(0.18)	(0.10)	(0.17)	(0.23)
(35-44 yrs.)	-0.0982	-0.0289	0.157	0.156***	-0.333**	-0.163
	(0.082)	(0.073)	(0.11)	(0.049)	(0.15)	(0.15)
(45-54 yrs.)	-0.150	0.131	-0.155	0.324**	-0.0837	-0.0361
	(0.12)	(0.092)	(0.17)	(0.14)	(0.15)	(0.15)
(>54 yrs.)	-0.182	0.0666	-0.127	0.258**	-0.201	-0.0859
	(0.12)	(0.12)	(0.18)	(0.13)	(0.19)	(0.16)
Largefirm	-0.0437	-0.295***	-0.206	-0.316**	0.0813	-0.295***
	(0.14)	(0.14)	(0.16)	(0.16)	(0.22)	(0.23)
Public	0.260***	-0.125	0.200*	-0.408**	0.363***	0.211
	(0.080)	(0.13)	(0.11)	(0.19)	(0.11)	(0.13)
Unionmemb			0.167	-0.292*		
			(0.14)	(0.16)		
Currempl			0.000274	0.0666		
			(0.10)	(0.18)		
moremoneynewjob			0.158	-0.0618		
			(0.12)	(0.083)		
samemoneynewjob			0.0624	0.0659		
			(0.13)	(0.11)		
nonwhite			0.0416	-0.283***		
			(0.22)	(0.090)		
Nbcases1					-0.0131	0.0981
					(0.11)	(0.14)
Ea					-0.172*	0.137***
					(0.094)	(0.043)
Pseudo R^2	0.0359		0.0511		0.0440	
Observations	6671		3376		3295	

Notes: Additional controls: regional and industry dummies. Robust standard errors, clustered at the region, between parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Source: Employer and applicant data from SETA 1998 and SETA 2003. Use of sample weights

The variables added when we consider applicant and employer surveys separately do not modify the result. We learn that the union and federation members are less likely to settle. However, it should not be associated with a hardening of the judicial process.

Indeed, the presence of a union at the work place seems to filter out low quality cases at it is associated with a higher likelihood to drop the case.

Judicial behaviours might vary across jurisdictions since in comparison with unfair dismissal cases, breach of contracts, wage acts and redundancy payments cases are more likely to reach the full hearing while discrimination cases do not differ. As noted before, given the representativeness of the samples, only an analysis for unfair dismissal jurisdiction is possible. Restricting our analysis to unfair dismissal cases, the English rules still decreases the relative likelihood of litigation but is not significant anymore at conventional levels.

In order to take into account the 1999 shortening –from two years to one year- of the probationary period during which the worker can not sue her employer for unfair dismissal, we discarded applicants that sue for unfair dismissal and that had a tenure of less than 2 years at the time of application in both waves. They represent about 15% of the cases. As before, the English rule decreases the trial rates when considering the employer survey or the applicant and employer surveys together. No significant impact is seen on the drop rate.

4.2. English rules and legal expenses

English rule might encourage higher legal expenses: the marginal cost of an additional expense - discounted by the probability of losing- is lower and the marginal benefit is higher since more is at stake. The theoretical setting above does not take into account the influence of legal expenditure on the probability of victory at trial and the amount awarded or settled. One could imagine that the level of legal cost is set through a maximisation of the expected gain of the judicial process under a resources constraint and an assessment of the quality of the case. As these expenses are positive for around 40% for employers and 20% for applicants, this program leads to corner

solutions and we model the legal expenditure as a Tobit model. We use the same controls than for the drop/settlement decision since the optimal legal costs derived from the arguments of the expected utility.

Table 4.4
Tobit model for legal costs

Sample: Dependent Variable:	Applicant and Employer Amount of legal expense	Applicant	Employer
costrule	-3430	-2526	-3640
	(2116)	(1754)	(2990)
settle	1061***	1588***	550.8
	(298)	(337)	(498)
trial	1769***	1399***	2184***
	(446)	(321)	(585)
vat	-3978	963.4	-852.6
	(5347)	(8046)	(6114)
ue	-490.4	-127.3	-724.3
	(472)	(411)	(778)
union	-543.2	-284.9	-587.4
	(419)	(671)	(452)
writproc	1658***	799.1	258.5
	(597)	(534)	(367)
discus	522.4	289.0	1113*
	(477)	(560)	(602)
warningdes	1010***	-265.8	274.6
	(328)	(427)	(305)
breach	-1191***	-1635*	-896.4**
	(455)	(877)	(408)
wages	-3854***	-3763***	-3703***
	(1057)	(1102)	(1028)
sexdisc	1279*	344.2	2404***
	(716)	(889)	(921)
jurisredund	-2071**	-2559**	-1013
	(846)	(1117)	(1092)
female	512.6*	792.6**	91.11
	(304)	(336)	(619)
partime	-1316*	-1061	-1179**
	(744)	(999)	(558)
Occupation (job3-job5)			
managerprof	665.4***	808.5***	544.1
	(180)	(301)	(448)
lowskill	-651.1*	-1238**	-671.0
	(390)	(482)	(546)

Table 4.4 (Continued)

Sample: Dependent Variable:	Applicant and Employer Amount of legal expense	Applicant	Employer
Annual Pay (<10K£)			
£10000-£14999	517.4	626.9**	453.8
	(324)	(312)	(435)
£15000-£19999	1074**	1380**	1406**
	(502)	(547)	(550)
£20000+	3250***	3797***	3332***
	(1135)	(1357)	(1197)
Tenure (between 3 and 7 years)			
< 1 yr.	-707.1**	-1165***	-682.3
	(294)	(433)	(562)
1-2 yrs.	564.5	133.8	724.8
	(410)	(387)	(573)
>7 yrs.	531.5	839.3**	661.1
	(412)	(424)	(540)
largefirm	229.5	631.1*	416.5
	(384)	(367)	(513)
public	-1554*	-1005	-1714
	(917)	(1387)	(1238)
unionmemb		-1878***	
		(673)	
currempl		-404.9	
		(510)	
moremoneynewjob		-905.0*	
		(467)	
samemoneynewjob		-667.3	
		(421)	
nonwhite		-817.7	
		(891)	
nbcases1			-323.6
			(344)
ea			-1127**
			(444)
Pseudo R2			
Observations:	6344	3226	3118
Expense=0	4946	2141	1965

Notes: Additional controls : regional and industry dummies. Robust standard errors, clustered at the region, between parentheses. *** p<0.01, ** p<0.05, * p<0.1. Use of sample weights.
Source : Employer and applicant data from SETA 1998 and SETA 2003.

1998 and 2003 SETA surveys provide information on legal expenses. The solicitor's fee has been introduced in the computation of the UK Consumer Price Index in 2006 but we do not have any information concerning the inflation of legal costs over the

period under review and the best we can do is to correct by the overall CPI. We find that the English rule decreases the amount of litigation costs although not significantly at conventional level (See Table 4.4).

4.3. Quality of the cases brought to trial

By encouraging the filing of high quality-low award cases, a consequence of the English rule should be a higher average quality of cases reaching trial. The risk-aversion and the English rule do not byte on these highly optimistic workers and a large majority of these cases should proceed to trial. Hence even after the filtering of cases made by the settlement process, we should observe a higher victory rate of worker[53]. We model the trial rate taking into account the selection process of the settlement stage. In addition of the controls capturing the preliminary estimate of the quality of the case that we use above, we identify the selection process by the annual pay which should not impact the decision of the tribunal. Again, we can see that the English rule decreases the likelihood to litigate. We can observe here a selection process (see Table 4.5), a Wald test leads to reject the independence of the equations and the cross-equation disturbance correlation is significantly different from 0. As predicted, the English rule corresponds to a higher victory rate at trial.

[53] Assuming that the judicial decision is not biased and actually captures the quality of the case. See Ichino & alii (2001) and Marinescu (2007) considering the unemployment rate might distort the decisions of the judges.

Table 4.5

Heckman probit for trial outcomes

Sample:	Applicant and Employer	
Equation	Trial	Settlement
Dependent Variable:	1=applicant wins, 0=applicant loses	1=trial, 0=settlement
costrule	0.379***	-0.254*
	(0.11)	(0.13)
Vat	1.348	-0.728
	(1.57)	(1.13)
Ue	0.0125	0.00228
	(0.034)	(0.037)
Breach	-0.0402	0.0981
	(0.079)	(0.063)
Wages	0.247**	0.109
	(0.099)	(0.075)
Sexdisc	-0.220	-0.0697
	(0.14)	(0.080)
Jurisredund	0.0181	0.470***
	(0.16)	(0.085)
Female	0.168*	-0.178***
	(0.088)	(0.062)
Partime	0.0576	-0.0586
	(0.077)	(0.075)
Occupation (job3-job5)		
managerprof	0.0453	0.00806
	(0.061)	(0.049)
lowskill	-0.0574	0.0214
	(0.081)	(0.059)
Tenure (between 3 and 7 years)		
< 1 yr.	0.113	-0.0460
	(0.078)	(0.064)
1-2 yrs.	0.0149	0.0274
	(0.098)	(0.037)
>7 yrs.	-0.162***	0.108**
	(0.041)	(0.054)
largefirm	0.0394	-0.135***
	(0.058)	(0.040)
Union		-0.0617**
		(0.030)
writproc		-0.126***
		(0.039)
Discus		-0.0146
		(0.033)
warningdes		0.0220
		(0.034)

Table 4.5 (Continued)
Heckman probit for trial outcomes

Sample:	Applicant and Employer	
Equation	Trial	Settlement
Dependent Variable:	1=applicant wins, 0=applicant loses	1=trial, 0=settlement
Annual Pay (<10K£)		
£10000-£14999		-0.0188
		(0.053)
£15000-£19999		-0.0102
		(0.096)
£20000+		-0.0914
		(0.060)
rho		-0.955
		0.0422
Observations	1451	5303

Notes: Additional controls : regional and industry dummies. Robust standard errors, clustered at the region, between parentheses. *** p<0.01, ** p<0.05, * p<0.1. Use of sample weights.
Source : Employer and applicant data from SETA 1998 and SETA 2003.

5. Robustness checks

5.1. IIA assumption

The multinomial logit is based on the strong assumption that the choice of settling the case is independent of the one of not to have dropped the case at the first place. We can suppose that unobserved components –such that taste for litigation or an overoptimistic bias- both determine the decision not to drop and not to settle. Hausman tests lead to negative statistics -results that can be attributed to finite sample properties and do not invalidate the IIA hypothesis (see Hausman and MacFadden (1984), pp 1226).

When discarding one of the potential outcomes, we obtain parameter estimates that in most cases are very close (see Table 4.6). A noticeable exception is the parameter associated to the deregistration rate which substantially differs when we include the "settle" category. Chi-square statistic is near 0 when we do not consider the drop category.

Table 4.6
Hausman-McFadden Tests (weighted)

Variables :	Model (Drop,Trial) / Model (Drop,Settle,Trial)*	Model (Drop,Settle) / Model (Drop,Settle,Trial)*	Model (Settle,Trial)/ Model (Drop,Settle,Trial)*
costrule	0.061	0.000	-0.035
Vat	0.748	-0.551	-0.026
Ue	-0.005	0.005	-0.009
Union	-0.002	0.006	-0.005
Writproc	-0.009	0.009	0.010
Discus	0.019	-0.008	-0.008
Warningdes	0.014	-0.001	0.010
Breach	0.017	0.007	-0.012
Wages	0.016	0.002	-0.010
Sexdisc	0.054	0.001	0.016
Jurisredund	0.029	-0.017	-0.003
Female	0.004	0.004	-0.007
Partime	-0.030	0.012	0.008
Managerprof	0.062	-0.007	0.008
Lowskill	-0.003	0.004	-0.009
Annual Pay (£10000-£14999)	-0.022	0.012	-0.005
Annual Pay (£15000-£19999)	-0.013	0.000	0.000
Annual Pay (£25000+)	-0.068	0.016	-0.009
tenure (<1 year)	0.003	-0.012	0.009
tenure (1-2 yrs.)	0.022	-0.003	0.011
tenure (>7 yrs.)	-0.016	-0.013	-0.001
age (<25 yrs)	-0.034	0.026	-0.008
age (35-44 yrs.)	-0.031	0.016	0.008
age (45-54 yrs.)	-0.021	0.013	0.003
age (>54 yrs)	-0.032	0.008	0.010
Largefirm	-0.002	0.011	-0.006
Public	0.003	-0.004	0.015
Hausman MacFadden Test	chi2(45)=-8.48	chi2(45)=-1.61	chi2(45)=-.45

Notes: *Difference in the parameter estimated by Model A and by Model B. Use of sample weights.
Source: Employer and applicant data from SETA 1998 and SETA 2003.

Even if IIA tests and logit regressions do not conclude for a selection process at the dropping stage, we run a heckman probit model taking advantage of the sequential decision process. The applicant once he has filed his claim decides or not to drop the claim.

Table 4.7
Bivariate Probit with Selection equation

Sample:	Applicant and Employer	
Equation	Settle	Drop equation
Dependent Variable:	1=Litigated, 0=Settled	1=Not Dropped, 0 Dropped
costrule	-0.287**	0.0501
	(0.12)	(0.18)
Vat	-0.675	-0.178
	(1.02)	(1.76)
Ue	-0.00619	0.0387
	(0.032)	(0.053)
breach	0.0730	0.194***
	(0.067)	(0.059)
wages	0.0698	0.300***
	(0.073)	(0.044)
sexdisc	-0.0513	-0.0986*
	(0.077)	(0.051)
jurisredund	0.486***	0.0342
	(0.11)	(0.12)
female	-0.201***	0.169***
	(0.056)	(0.046)
partime	-0.0869	0.0989
	(0.074)	(0.099)
Occupation (job3-job5)		
managerprof	0.00262	0.0332
	(0.059)	(0.051)
lowskill	0.00274	0.0398
	(0.063)	(0.060)
Annual Pay (<10K£)		
£10000-£14999	-0.0968	0.118*
	(0.067)	(0.060)
£15000-£19999	-0.131*	0.111
	(0.069)	(0.088)
£20000+	-0.163**	0.177**
	(0.073)	(0.071)
Tenure (between 3 and 7 years)		
< 1 yr.	0.0268	-0.332***
	(0.078)	(0.062)
1-2 yrs.	0.0346	0.0255
	(0.040)	(0.050)
>7 yrs.	0.120**	-0.0944
	(0.048)	(0.081)

Table 4.7 (Continued)

Sample:	Applicant and Employer	
Equation	Settle	Drop equation
Dependent Variable:	1=Litigated, 0=Settled	1=Not Dropped, 0 Dropped
largefirm	-0.159***	-0.0187
	(0.044)	(0.048)
union		-0.240***
		(0.057)
writproc		-0.0199
		(0.025)
discus		0.0267
		(0.031)
warningdes		0.0821**
		(0.033)
public		-0.176***
		(0.053)
Rho		-0.394
		(0.43)
Observations	5303	6711

Notes: Additional controls: regional and industry dummies. Robust standard errors, clustered at the region, between parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Source : employer and applicant data from SETA 1998 and SETA 2003. Use of sample weights.

We assume that this decision partly depends on the state of labour relationships at the workplace which is captured by the presence of a union, the issuance by the employer of a written procedure, a formal meeting between the applicant and the employer before the filing and the sector of the firm (public, private or non-profit).

These variables allow the applicant to determine more precisely if he is at fault or not and are supposed to help the applicant to produce a first estimate of the quality of his case. Once the case is not dropped, it is plausible that they do not to modify the assessment of the case anymore. The model shows a negative impact of the English rule on the litigation rate (see Table 4.7). The selection process is still hard to detect, a Wald test leads not to reject the independence of the equations and the cross-equation disturbance correlation is not significantly different from 0.

5.2. Awareness of the case

Table 4.8
Multinomial Logit (Awareness of Costs)

Dependent Variable: Outcome of the case (Base: Settlement)						
Sample:	Applicant and Employer		Applicant only		Employer only	
Variable	Drop	Trial	Drop	Trial	Drop	Trial
awareness	-0.208***	-0.213***	-0.513***	-0.302**	0.151	-0.187**
	(0.071)	(0.065)	(0.11)	(0.12)	(0.10)	(0.080)
vat	1.786	2.772	2.240	7.179	0.441	-0.746
	(4.01)	(2.89)	(5.99)	(4.89)	(4.60)	(4.32)
ue	0.205	-0.237	0.230	-0.297	0.269	-0.177
	(0.18)	(0.25)	(0.22)	(0.33)	(0.20)	(0.31)
union	0.515***	-0.0210	0.711***	0.101	0.311**	-0.0121
	(0.13)	(0.15)	(0.19)	(0.20)	(0.13)	(0.18)
writproc	-0.0581*	0.0217	-0.0273	0.0840	-0.118	0.0842
	(0.034)	(0.092)	(0.079)	(0.14)	(0.13)	(0.15)
discus	0.00350	0.0249	-0.0146	0.115	0.0172	-0.118
	(0.095)	(0.10)	(0.12)	(0.11)	(0.16)	(0.17)
warningdes	-0.131*	0.0954	-0.0431	0.00601	-0.180	0.157*
	(0.072)	(0.092)	(0.11)	(0.18)	(0.12)	(0.093)
breach	-0.0866	0.268**	0.117	0.294	-0.304	0.220***
	(0.12)	(0.12)	(0.12)	(0.21)	(0.25)	(0.077)
wages	-0.240***	0.202	-0.312**	0.468***	-0.195*	-0.108
	(0.067)	(0.19)	(0.16)	(0.16)	(0.12)	(0.30)
sexdisc	0.0608	-0.370	0.208	-0.397	-0.149	-0.361
	(0.17)	(0.25)	(0.20)	(0.29)	(0.32)	(0.33)
jurisredund	-0.149	0.613***	-0.0672	0.748***	-0.292	0.514
	(0.26)	(0.18)	(0.29)	(0.28)	(0.43)	(0.32)
female	-0.289***	-0.246**	-0.337***	-0.337	-0.248*	-0.172
	(0.094)	(0.12)	(0.13)	(0.23)	(0.13)	(0.16)
partime	-0.311**	-0.177	-0.467*	-0.110	-0.199	-0.240
	(0.15)	(0.19)	(0.27)	(0.17)	(0.19)	(0.30)
Occupation (job3-job5)						
managerprof	-0.129	0.0380	-0.0707	0.111	-0.145	-0.0816
	(0.14)	(0.10)	(0.21)	(0.17)	(0.19)	(0.13)
lowskill	0.00649	-0.0755	-0.0997	-0.0266	0.122	-0.0865
	(0.17)	(0.12)	(0.15)	(0.20)	(0.24)	(0.16)
Annual Pay (<10K£)						
£10000-£14999	-0.208***	-0.0648	-0.450***	-0.0357	-0.0335	-0.0912
	(0.070)	(0.12)	(0.15)	(0.15)	(0.11)	(0.22)
£15000-£19999	-0.309*	-0.0932	-0.539**	-0.150	-0.111	-0.0173
	(0.17)	(0.18)	(0.26)	(0.17)	(0.15)	(0.35)
£20000+	-0.355***	-0.188	-0.365*	-0.156	-0.403***	-0.236
	(0.091)	(0.15)	(0.21)	(0.13)	(0.14)	(0.29)

Table 4.8 (Continued)

Dependent Variable: Outcome of the case (Base: Settlement)						
Sample:	Applicant and Employer		Applicant only		Employer only	
Variable	Drop	Trial	Drop	Trial	Drop	Trial
Tenure (between 3 and 7 years)						
< 1 yr.	0.0331	0.0135	-0.113	0.151	0.231	-0.186
	(0.19)	(0.13)	(0.27)	(0.26)	(0.25)	(0.23)
1-2 yrs.	-0.246*	0.203**	-0.414**	0.339*	0.00313	0.0584
	(0.14)	(0.084)	(0.20)	(0.18)	(0.22)	(0.23)
>7 yrs.	0.113	0.362***	-0.0765	0.523**	0.355	0.242
	(0.19)	(0.14)	(0.21)	(0.25)	(0.27)	(0.37)
largefirm	-0.0319	-0.353***	-0.256*	-0.367***	0.0758	-0.368***
	(0.14)	(0.15)	(0.14)	(0.16)	(0.22)	(0.26)
public	0.161*	-0.152	0.168**	-0.276	0.129	0.0698
	(0.083)	(0.16)	(0.081)	(0.23)	(0.17)	(0.19)
unionmemb			0.175	-0.380**		
			(0.19)	(0.17)		
currempl			0.0150	-0.142		
			(0.13)	(0.18)		
moremoneynewjob			0.131	0.0507		
			(0.21)	(0.11)		
samemoneynewjob			-0.0531	0.106		
			(0.19)	(0.16)		
nonwhite			0.0240	-0.215		
			(0.22)	(0.14)		
nbcases1					-0.0195	0.0931
					(0.14)	(0.21)
ea					-0.251	0.151
					(0.16)	(0.11)
Pseudo-R2	0.0368		0.0621		0.0452	
Observations	3977		2006		1971	

Notes: Additional controls : regional and industry dummies. Robust standard errors, clustered at the region, between parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Source : employer and applicant data from SETA 2003. Use of sample weights

The impact of the English rule on judicial behaviours can be mitigated by the degree of awareness of such a rule. Fortunately, in the 2003 survey, applicants and employers are asked if they were aware of this rule at the start of the judicial process[54]. We estimate the multinomial logit on the 2003 data substituting our "costrule" dummy by this variable (see Table 4.8). Awareness of the cost regime

[54] "If a Tribunal decides that a case should not have been brought to Tribunal or that the people involved in the case have acted unreasonably in pursuing it, they can penalise those involved by making them pay towards the other side's costs. Did you know this when you put in your application for an employment tribunal? »

increases the likelihood to settle rather than to go for a full hearing. It also encourages applicants not to drop their cases.

5.2. Difference in difference Estimators

We had run before-after analyses but we can ask whether there is a general downward trend in the tendency to litigate for reasons other than the change in the regulation. The web provides applicants and defendants an easy and cheap access to information not only on the steps to follow to avoid an unfair dismissal but also the judicial knowledge to challenge it and the related legal costs. Main findings from SETA surveys where can be found information on litigations costs or winning rates are freely available[55]. In that context, one could expect that both parties are better in assessing the quality of the case reducing both the divergence in expectations and the asymmetry of the information. Fortunately, we can assume than the impact of the new allocation of costs rule is more likely to be relevant for some types of cases namely the unfair dismissal and discrimination cases.

First, 1998 data show that the outcome of an unfair dismissal case seems to be more uncertain than those for the "Wage Act" and "Redundancy payment" for which proofs are more easily provided to the court. In 1998, the worker prevails at trial in 69%, 71% of the cases under these jurisdictions respectively (vs 40% for unfair dismissal)[56]. Second, unfair dismissal and discrimination cases are more risky. The risk-aversion terms[57] $\sigma_A^2\left[\left(D_A + C_A + C_B\right)^2 - D_A^2\right]$ observed for the "Wage Act" and "Breach of contract" and "Redundancy payment" and "Unfair dismissals" cases adjudicated in 1998 amount to 23% 40% 48% and 80% respectively of the "sex

[55] Main findings from the 1998 SETA survey can be found ont the website of the BERR (Department for Business Enterprise and Regulatory Reform- http://www.berr.gov.uk/)
[56] In 1998, legal costs might be also awarded (the upper limit being very low in comparison with 2003) but the number of cases is to small to draw reliable conclusions
[57] We do not have employer-applicant matched data on the costs and use sample means.

discrimination" ones (see Table 4.9). Third, they exhibit the largest legal expenses making less likely than the new rules increases substantially the pool of cases adjudicated by more low award-high quality cases. Finally, the contract zone defined by equation (5) depends the difference-in-expectation term $(p_E - p_A)(C_A + C_B)$. We do not have applicant-employer matched data to compute good proxy of this term. Tentatively, we make use of the answer to the 1998 wave question "When you sent off your Industrial Tribunal application did you think you were likely to win your case, likely to lose or did you think your chances were about evens?" weighting the "likely to lose", "about evens" and "likely to win" categories respectively by 1/4, 1/2 and 3/4 to get proxies of p_A and p_E. As both employers and applicants are very optimistic on their case, the difference-in-expectation term is negative. For both employer and applicant, the expectation on the outcome of the case at the start of the process varies little across jurisdictions.

Table 4.9

Risk aversion ($\sigma_A^2\left[(D_A + C_A + C_B)^2 - D_A^2\right]$) and expectation across jurisdictions in 1998

	Risk aversion	P_E	P_A
unfair	80%	0.36	0.63
wages	23%	0.36	0.65
breach	40%	0.35	0.66
jurisredund	48%	0.42	0.65
sexdisc	100%	0.36	0.61

Notes: Terms are expressed as the fraction of the ones obtained for the discrimination category which exhibits the largest value. Risk-aversion terms are computed using sample analogue. We use the question: "When you sent off your Industrial Tribunal application did you think you were likely to win your case, likely to lose or did you think your chances were about evens?" weighting the "likely to lose", "about evens" and "likely to win" categories respectively by 1/4, 1/2 and 3/4 to get compute the expectations terms. Use of sample weights.
Source: employer and applicant data from SETA 1998. Observations: 1330 applicants, 1245 employers.

Given the difference in risk aversion terms, we run a difference-in-difference approach adding interaction term year*jurisdiction in our regressions. Our basic

theoretical model would suggest that the English rule is more likely to affect the unfair and discrimination cases. Presenting lower risk aversion terms and higher probability to prevail, the settlement rate of the "wage act" "breach of contract" and "redundancy" cases should be less sensitive to the introduction of the new cost rule. As recalled by Ai and Norton (2003), in non linear models one can not conclude on the effect of interaction terms simply by looking the estimated parameters. The magnitude of the impact depends on all the covariates in the models. Using their computational routine[58], we display for each jurisdiction the mean and z-score of the marginal probabilities associated to each jurisdiction interacting with the 2003 dummy. No significant difference is found for the unfair dismissal cases but the discrimination cases show a higher likelihood settlement rate in 2003 with respect to all the other jurisdictions.

Table 4.10

Consistent estimates of the marginal probabilities of interaction terms jurisdiction*year settlement versus trial

	Mean of Marginal probabilities	Mean of z-statistic	Min	Max
Wages	0.05	1.26	0.02	0.07
Breach	-0.03	-0.92	-0.04	-0.02
Jurisredund	-0.08	-1.21	-0.08	-0.04
Sexdisc	-0.12	-2.12	-0.16	-0.06

Notes: Marginal probabilities of the interaction terms from a multinomial probit on the outcome of the case (dropped ,settled or at trial) computed following Ai and Norton (2003). Differences in trial versus settlement. Use of sample weights.
Source: employer and applicant data from SETA 1998. Observations : 4589.

6. Conclusion

The UK has experienced over the last twenty years a very strong increase in the number of individual labour disputes filed to employment tribunals. This phenomenon challenges the economists thinking that flexibility and deregulation were at the heart of a performing labour market since an increase in judicial battles and substantial legal

[58] See the code inteff in stata®.

costs were offsetting the effects of a decrease in union rate and more generally a legislation tending to the "employment-at –will" doctrine.

The implementation of a fee-shifting rule "loser pays all" is one of the most attractive tool among those available to policy makers willing to soften the litigation process and curb the increase in trial and filing rates. This is paradoxical since theoretical models of litigation do not provide clear cut predictions of such rules. Risk-averse parties would favour settlement rates but it might also encourage high quality and low award case to file in and lead to larger legal expense since it becomes possible to recoup the costs. Thus the total effect remains an empirical question. Exploiting a change in regulation that occurs in 2001 and two surveys representative of Employment Tribunal cases collected in 1999 and 2003, we run a before-after analysis controlling for local change of the economic environment consistent with an increase in the settlement rate. We do not observe a significant increase in legal costs. As a robustness check, we also find plaintiffs and defendant that were aware of this new rules in 2003 are also more likely to settle and in a difference-in-difference approach that some cases more likely to be affected by such a rule tend to settle more.

Although benefiting from a unusual wide range of characteristics for plaintiffs and defendants, our study could still suffer from selection bias on the unobserved quality of the case which as shown by Farber and White (1991) on Floridian medical malpractices might be of great importance in explaining judicial behaviours. Our statistical test undermines this assumption from the decision to drop to the decision to go to trial but we can not totally exclude it as we do not have any information -as for the vast majority of empirical studies- on the steps preceding the filing of the case.

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5. Conclusion

The impact of the EPL on labor markets has most often been assessed through cross-country analyses which make it hard to control for all various potential interactions between labor market institutions. Within country analyses have most often used difference-in-difference estimators and tended to ignore the extent to which EPL was enforced and was acting as a binding constraint for the firm or the worker. Both of these strands of literature do not address the problems of EPL endogeneity and enforcement of the EPL. By contrast, in order to measure EPL in France --a country with a highly regulated labor market—we use the time varying judicial activity of the local courts in charge of ruling the individual labor disputes (Prud'hommes). We find that the disposition of the cases depends on the business cycle which shows that EPL indices capturing the strictness of the EPL but enable to render the degree of enforcement are fragmented. Instrumented by the institutional settings of the Prud'hommes and their legal environment, the case disposition is found to have an impact on local labor markets. Large victory and agreement rates, a small rate of dismissed cases, an intensive use of lawyers cause lower labor flows volatility. Yet impacts on net job creations are not significant. Using labor force surveys we show that a decrease in labor flows volatility goes along with a lower employment rate, lower female and youth employment rates, and increases in the long term unemployment and temporary jobs. From a welfare perspective, judicial activity allows to increase job stability and to protect workers from employer abuse and unfair dismissals. The downsides are to exclude from the labor markets unskilled and inexperienced workers, to let workers employed in less productive jobs and to induce unnecessary litigation costs.

British data on individual labor disputes allow us to test the existence of such costs. Like in previous empirical literature but on a more complete set of data, we find

that hiring a lawyer increases the probability of victory at trial. By contrast, lawyers do not neutralize each other when retained on both sides of a dispute, and legal representation is more beneficial to the firm when both parties are represented than when neither of them uses a lawyer. This invalidates the presence of a prisoner's dilemma in the game of legal representation on the whole sample of cases. However we do find a prisoner dilemma when we restrict ourselves for robustness checks to small firms or unfair dismissal cases. Other sufficient and necessary conditions for the existence of a prisoner's dilemma are met in all samples. Statistical models built on Nash or Stackelberg equilibria concept and interacting the choices of both parties show that the legal representation of the worker pushes the firm to be represented but that the opposite is not true. The use of a lawyer by the firms is also related to the complexity of the case and the amount at stake. The presence of non financial cost such as bad publicity or fear to have to face additional claims is positively related to the hiring of a lawyer for large firms.

The United Kingdom has experienced over the last twenty years a very strong increase in the number of individual labour disputes filed to employment tribunals. This phenomenon challenges the economists thinking that flexibility and deregulation were at the heart of a performing labour market since an increase in judicial battles and substantial legal costs were offsetting the effects of a decrease in union rate and more generally a legislation tending to the "employment-at –will" doctrine. The implementation of a fee-shifting rule "loser pays all" was thought as one of the most attractive tool among those available to policy makers willing to soften the litigation process and curb the increase in trial and filing rates. This is paradoxical since theoretical models of litigation do not provide clear cut predictions of such rules. Risk-averse parties would favour settlement rates but it might also encourage high quality and low award case to file in and lead to larger legal expense since it becomes possible

to recoup the costs. Thus the total effect remains an empirical question. Exploiting a change in regulation that occurs in 2001 and two surveys representative of Employment Tribunal cases collected in 1999 and 2003, we run a before-after analysis controlling for local change of the economic environment consistent with an increase in the settlement rate. We do not observe a significant increase in legal costs. As a robustness check, we also find plaintiffs and defendant that were aware of this new rules in 2003 are also more likely to settle and in a difference-in-difference approach that some cases more likely to be affected by such a rule tend to settle more.